Drinking Water Surveillance Program

OTTAWA (LEMIEUX ISLAND) WATER TREATMENT PLANT

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OTTAWA (LEMIEUX ISLAND) WATER TREATMENT PLANT

DRINKING WATER SURVEILLANCE PROGRAM

ANNUAL REPORT 1988

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EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

OTTAWA (LEMIEUX ISLAND) WATER TREATMENT PLANT
1988 ANNUAL REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. Currently, 52 plants are being monitored.

The Ottawa (Lemieux Island) Water Treatment Plant is a conventional treatment plant which treats water from the Ottawa River. The Process consists of coagulation, flocculation, sedimentation, filtration, disinfection, post pH adjustment and fluoridation. This plant has a design capacity of 299 x 1000 m^3/day and in conjunction with the Britannia plant, serves a population of approximately 515,000.

Samples from the Ottawa (Lemieux Island) Water Treatment Plant raw and treated water plus water samples two distribution system sites were taken on a monthly basis and analyzed for approximately 160 parameters. Parameters were divided into the following groups Bacteriological, Inorganic and Physical (Laboratory Chemistry, Field Chemistry and Metals) and Organics (Chloroaromatics, Chlorophenols, Pesticide and PCB, Phenolics, Polynuclear Aromatic Hydrocarbons, Specific Pesticides and Volatiles). Specific Pesticides and Chlorophenols were analysed in June and November only.

A summary of results is shown in Table 1.

Inorganic and Physical parameters (Laboratory Chemistry, Field Chemistry and Metals) were below any applicable health related ODWOs.

Of approximately 110 Organic parameters tested for on a monthly basis, none exceeded health related guidelines.

During 1988 the DWSP sampling results indicated that the Ottawa (Lemieux Island) Water Treatment Plant produced good quality water at the plant and this quality was maintained in the distribution system.

TABLE 1

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND)

SUMMARY TABLE BY SCAN

SCAN	RAW			TREATED			SITE 1			SITE 2		
	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE
BACTERIOLOGICAL	43	43	100	44	11	25	40	9	22	44	13	29
CHEMISTRY (FLD)	36	36	100	72	72	100	121	121	100	134	134	100
CHEMISTRY (LAB)	236	199	84	236	195	82	368	331	89	386	336	87
METALS	288	134	46	288	119	41	517	211	40	564	221	39
CHLOROAROMATICS	154	0	0	140	0	0	154	0	0	168	0	0
CHLOROPHENOLS	12	0	0	12	0	0	.	.	.	.	.	.
PAH	204	0	0	204	0	0	.	.	.	.	.	.
PESTICIDES & PCB	375	0	0	354	0	0	364	0	0	396	0	0
PHENOLICS	12	8	66	12	8	66	.	.	.	.	.	.
SPECIFIC PESTICIDES	56	0	0	56	0	0	1	0	0	1	0	0
VOLATILES	285	0	0	284	29	10	258	29	11	283	27	9
TOTAL	1701	420		1702	434		1823	701		1976	731	

NO HEALTH-RELATED GUIDELINES WERE EXCEEDED

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE
A '.' INDICATES THAT NO SAMPLE WAS TAKEN

DRINKING WATER SURVEILLANCE PROGRAM

OTTAWA (LEMIEUX ISLAND) WATER TREATMENT PLANT
1988 ANNUAL REPORT

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. Currently, 52 plants are being monitored.

The DWSP was initiated at the Ottawa (Lemieux Island) Water Treatment Plant in the fall of 1986. Annual reports were published for 1986 (ISBN 0-7729-2550-X) and 1987 (ISSN 0840-5204).

This report contains information and results for 1988.

PLANT DESCRIPTION

The Ottawa (Lemieux Island) Water Treatment is a conventional treatment plant which treats water from the Ottawa River. The process consists of coagulation, flocculation, sedimentation, filtration, disinfection, post pH adjustment and fluoridation. It has a design capacity of 299 x 1000 m^3/day and sample day flows

ranging from 194.5 x 1000 m^3/day to 255 x 1000 m^3/day. This plant, in conjunction with the Britannia plant, serves a population of approximately 515,000.

The plant location is shown in Figure 1. Plant process details, in a block schematic, are shown in Figure 2. General plant information is presented in Table 2.

METHODS

Water samples were obtained from four DWSP approved locations;

i) Plant Raw - The water originated from the intake basin prior to chlorination and was sampled through a stainless steel line. The sample tap is located in the plant laboratory.

ii) Plant Treated - The water originated from the highlift discharge after addition of all treatment chemicals and was sampled through a copper sample line. The sample tap is located in the plant laboratory.

iii) Distribution System - Site 1 - This house is approximately 4 kilometers from the plant. Water was sampled through copper plumbing, from the basement laundry tap.

iv) Distribution System - Site 2 - This house is approximately 10 kilometers from the plant.

Water was sampled, through copper plumbing, from the basement laundry tap.

Sample lines in the plant were flushed prior to sampling to ensure that the water obtained was indicative of its origin and not residual water standing in the sample line.

At all distribution system locations two types of samples were obtained: a standing and a free flow. The standing sample consisted of water that had been in the household plumbing and service connection for a minimum of six hours. These samples are used to make an assessment of the amount by which the levels of inorganic compounds and metals may be changed on standing, due to leaching from (or deposition on), the plumbing system. The only analyses carried out on the standing samples therefore, are General Chemistry and Metals. The free flow sample represented fresh water from the distribution main that had been flowing at the sample tap for five minutes before being sampled.

Attempts were made to capture the same block of water at each sampling point by taking the retention time into consideration. The retention time was calculated by dividing the volume of water between the two sampling points by the sample day flow. For example, if it was determined that the retention time within the plant was five hours then there would be a five hour interval

FIGURE 1

DRINKING WATER SURVEILLANCE PROGRAM

SITE LOCATION MAP

OTTAWA (LEMIEUX ISLAND) WATER TREATMENT PLANT

FIGURE 2

OTTAWA (LEMIEUX ISLAND) WATER TREATMENT PLANT

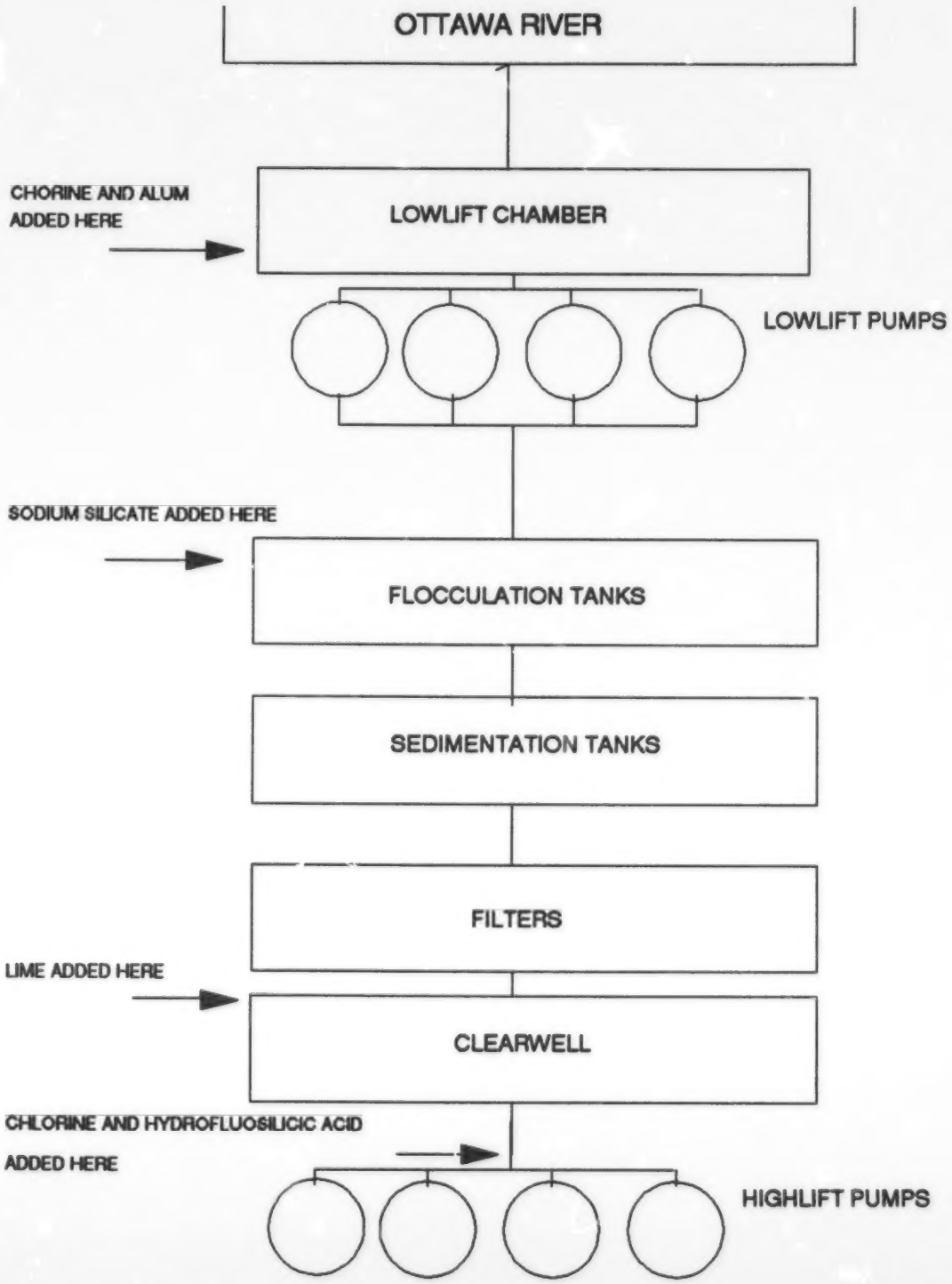

TABLE 2

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

GENERAL INFORMATION

OTTAWA (LEMIEUX ISLAND) WATER TREATMENT PLANT

LOCATION:	BAYVIEW ROAD LEMIUEX ISLAND OTTAWA, ONTARIO (613-728-3771)
SOURCE:	RAW WATER SOURCE - OTTAWA RIVER
RATED CAPACITY:	298.7 (1000 M^3/DAY)
OPERATION:	MUNICIPAL
PLANT SUPERINTENDENT:	L. SCHARFE
MINISTRY REGION:	SOUTHEASTERN
DISTRICT OFFICER:	MR. R.A. DUNN

MUNICIPALITY SERVED	POPULATION
CITY OF OTTAWA	304,000
GLOUCESTER	76,589
VANIER	18,877
ROCKCLIFFE	2,267
GOULBOURN	9,720
CUMBERLAND	17,008
OSGOODE	9,561

between the raw and treated sampling.

Similarly, if it was estimated that it took approximately one day for the water to travel from the plant to the distribution system site, this site would be sampled one day after the treated water from the plant.

Stringent DWSP sampling protocols were followed to ensure that all samples were taken in a uniform manner.

Sample day flow, treatment chemical dosages and field measurements such as Turbidity, Chlorine Residuals, pH and Temperature were recorded on the day of sampling and were entered onto the DWSP data base as submitted.

RESULTS

The Ottawa (Lemieux Island) Water Treatment Plant was sampled for approximately 160 parameters on a monthly basis.

The Specific Pesticides and Chlorophenols scans were sampled in June and November only. Polynuclear Aromatic Hydrocarbons and Phenolics are only analysed in the raw and treated water from the plant. As a result of an unforeseen emergency the laboratory capacity was exceeded and analysis for volatiles could not be carried out when the samples were received. Since analysis for

volatiles is no longer valid after four weeks of storage, volatile results for January or February are not available.

Table 3 contains information on the sample day retention time, flow rate and treatment chemicals used and their associated dosages.

Table 4 is a summary break-down of the number of water samples analysed by parameter and by water type. The number of times that a positive or trace result was detected is also reported.

Positive denotes that the result is greater than the statistical limit of detection established by the Ministry of the Environment (MOE) laboratory staff and is quantifiable. Trace (<T) denotes that the level measured is greater than the lowest value detectable by the method but lies so close to the detection limit that it cannot be confidently quantified.

Table 5 presents the results for parameters detected on at least one occasion.

Table 6 presents parameters analysed in the DWSP.

Associated guidelines and detection limits are also supplied on tables 5 and 6. Parameters are listed alphabetically within each scan.

DISCUSSION

Water quality is judged by comparison with the Ontario Drinking Water Objectives (ODWOs) as defined in the 1984 publication (ISBN 0-7743-8985-0). The Province of Ontario has health related and aesthetic objectives for 49 parameters, these are currently under review. When an ODWO is not available guidelines/limits from other agencies are consulted. The Parameters Listing System (PALIS) recently published (ISBN 0-7729-4461 -X) by the MOE catalogues and keeps current over 1750 guidelines for 650 parameters from agencies throughout the world.

Although some of the parameters measured on DWSP may be present in the raw and treated water as a result of pollution, many of the compounds detected are naturally occuring or are treatment by-products.

Plant operational personnel address occurrences of taste and odour or biological water quality parameters. The DWSP does not assess these aspects of the water supply.

As stated under Results, traces do not indicate quantifiable results as defined by established MOE laboratory analytical reporting protocols. While they can be useful in trend analysis or confirmation of the presence of a specific contaminant that is

repeatedly detected at these levels, the occasional finding of a trace level of a contaminant is not considered to be significant. **DISCUSSION OF GUIDELINES AND LIMITS THEREFORE, IS ONLY CONDUCTED ON POSITIVE RESULTS.**

Bacteriology

Positive results for the Bacteriology scan were present eleven times in the treated water, nine times in the Site 1 water samples and thirteen times in the Site 2 samples. In all cases the positive parameters were Standard Plate Count, Total Coliform and/or Total Coliform Background.

Standard Plate Count is a test used to supplement routine analysis for Coliform bacteria. The limit for Standard Plate Count (at 35^{0}C after 48 hours) in the ODWOs is 500 organisms per mL (based on a geometric mean of 5 or more samples). High Standard Plate Counts were present in the November Site 2 water samples. While no indicators of unsafe water were detected, the high Standard Plate Count may be indicative of a deterioration in conditions in the distribution system.

Guidelines for bacteriological sampling and testing of a supply are developed to maintain a proper supervision of its bacteriological quality; the routine monitoring program usually requires the taking of multiple samples in a given system. Full interpretation of

bacteriological quality cannot be made on the basis of single samples. Further, bacteriological limits were developed in acknowledgement that the presence of coliforms may be detected due to their non-uniform distribution throughout the distribution system and the fact that their enumeration is subject to considerable variation. For these reasons, the occasional finding of low numbers of coliform organisms is not unexpected. Routine bacteriological monitoring, as outlined in the ODWOs is carried out by the operating authority.

Inorganic and Physical Parameters

Laboratory and Field Chemistry

The results for the Laboratory Chemistry and Field Chemistry scans were below applicable health related ODWOs.

The Langelier Index is used extensively in estimating the corrosion potential of water. An increasingly negative index indicates the increasing possibility of corrosion. It is considered sound engineering practice to maintain a slightly positive Langelier Index. The Langelier Index for the Ottawa (Lemieux Island) water is consistently negative.

As part of the treatment plant process, hydrofluosilicic acid is added to the treated water (Table 3). Where fluoridation is practiced, the Fluoride concentration recommended in the ODWO is

1.2 mg/L, plus or minus 0.2 mg/L. This level was generally not maintained. Table 3 indicates that the amount of hydrofluosilicic acid added was not sufficient to maintain a 1.2 (plus or minus .2) mg/L Fluoride residual.

It is desirable that the Temperature of drinking water be less than 15°C; the palatability of water is enhanced by its coolness. A temperature below 15°C will tend to reduce the growth of nuisance organisms and hence minimize associated taste, colour, odour and corrosion problems. The temperature of the delivered water may increase in the distribution system due to the warming effect of the soil in late summer and fall and/or as a result of higher temperatures in the source water. The desired ODWO was exceeded thirteen times in the treated water and free flow distributed water.

Calcium, Conductivity and Hardness levels increased in the treated water as compared to the raw water. These increases are a result of the addition of Calcium Oxide during the treatment process to adjust the final pH in the treated water.

Metals

The results reported for the Metals scan were below any applicable health related ODWOs.

Iron levels were generally lower in the treated water as compared

to the raw water. This is a result of the treatment process. The addition of Alum as a coagulant to the raw water and the resulting coagulation/settling process has been shown to reduce the levels of most metals.

Elevated levels of Copper and Lead were detected in the standing samples as compared to the free flow distribution samples thus, indicating that small quantities of these metals were leached from the household plumbing as the water stood overnight. The Langelier Index indicates potential for corrosion and some metals will be leached in standing samples in most supplies.

At present, there is no evidence that Aluminum is physiologically harmful and no health limit for drinking water has been specified. The measure of residual Aluminum in the treated water is important to indicate the efficiency of the treatment process. The ODWOs indicate that a useful guideline is to maintain a residual below 0.1 mg/L as Al in the water leaving the plant to avoid post precipitation problems. Aluminum values exceeded the ODWO operational guideline six times in the treated water.

<u>Organic Parameters</u>

Chloroaromatics

The results of the Chloroaromatics scan showed that one parameter was detected:

Hexachloroethane

Hexachloroethane was detected at trace levels, twice in the treated water, once in the Site 1 water and twice in the Site 2 water.

Review of these results, along with past information from other water supplies on DWSP, would indicate that certain Chloroaromatics appear more frequently in the treated water than in the raw and almost always only at trace levels. These occurrences could possibly be due to a reaction of chlorine with organics present in the water or in the distribution system.

Chlorophenols

The results of the Chlorophenols scan showed that no Chlorophenols were detected.

Pesticides and PCB (Polychlorinated Biphenyl)

The results of the Pesticides and PCB scan showed that no PCBs were detected and that two pesticides were detected:

Alpha BHC

Lindane

There are several isomers of BHC (Benzene Hexachloride); gamma Lindane is the active ingredient of the pesticide Lindane, while alpha BHC is the isomer predominantly found in surface water from the Great Lakes Basin as indicated in results from other water

supplies on DWSP.

Alpha BHC was detected at trace levels, four times in the raw water, three times in the treated water, five times in the Site 1 water and five times in the Site 2 water.

Lindane was detected at trace levels, twice in the raw water, once in the treated water, once in the Site 1 water and twice in the Site 2 water.

Specific Pesticides

Results of the Specific Pesticides scan showed that no parameters were detected.

Phenolics

The maximum desirable concentration of phenolic substances in drinking water is 2.0 ug/L. This limit has been set primarily to prevent the occurrence of undesirable tastes and odours, particularly in chlorinated water. Phenolics were detected at levels ranging from 1.0 ug/L to 4.6 ug/L in the raw and treated water. Phenolics were detected at trace levels, four times in the raw water and treated water. Phenolic compounds are present in the aquatic environment as a result of natural and/or industrial processes.

Polynuclear Aromatic Hydrocarbons (PAH)

The results of the PAH scan showed that no PAHs were detected.

Volatiles

The results of the Volatiles scan showed that seven parameters, other than Trihalomethanes(THMs), were detected:

Toluene

Ethylbenzene

Meta and Para-Xylene

Ortho-Xylene

Styrene

Tetrachloroethylene

1,4-Dichlorobenzene

Toluene was detected at trace levels, once in the raw water, twice in the treated water, six times in the Site 1 water and once in the Site 2 water. The detection of toluene at low, trace levels is a laboratory artifact derived from the analytical methodology. The purge-and-trap analytical technique depends on the purging of the volatile organics in the water sample with helium gas onto a Tenax trapping column. The volatile materials are subsequently thermally desorbed, separated and quantified. Tenax, a toluene-like polymeric material, tends to decompose sporadically upon heating into toluene and other aromatic componenets (ethylbenzene and xylene) giving instrument blanks in the order of 0.05 ug/L.

The detected trace levels of Styrene are also considered to be laboratory artifacts due to the outgassing of monomeric styrene from the polystyrene shipping containers. The sporadic background levels from this source are in the order of 0.05 ug/L.

Ethylbenzene was detected at trace levels, four times in the raw water, six times in the treated water, nine times in the Site 1 water and four times in the Site 2 water.

Meta and Para-Xylene are measured as one compound, M-Xylene. They were detected at trace levels, once in the treated water and twice in the Site 1 water.

Ortho-Xylene (O-Xylene) was detected at trace levels, once in the raw water, once in the treated water and three times in the Site 1 water.

The volatiles listed above are typically found on an occasional basis at other water supplies included on the DWSP usually at trace levels.

Tetrachloroethylene was detected at trace levels, once in the treated water and once in the Site 2.

1,4-Dichlorobenzene was detected at trace levels, twice in the raw water and three times in the treated water.

THMs are acknowledged to be produced during the water treatment process and will always occur in chlorinated surface waters. THMs are comprised of Chloroform, Chlorodibromomethane and Dichlorobromomethane. Bromoform occurs occasionally. Results are reported for the individual compounds as well as for total THMs.

Chloroform, Dichlorobromomethane and Total THMs were detected in all treated waters. All Total THM occurrences ranging from 40.4 ug/L to 202.2 ug/L were below the ODWO of 350 ug/L.

THMs were present in one raw water sample taken in 1988 and in three raw water samples taken in 1987. This would indicate that low levels of chlorine were present in these samples.

CONCLUSIONS

The Ottawa (Lemieux Island) Water Treatment plant for the sample year of 1988 produced good quality water at the plant and this was maintained in the distribution system.

No health related guidelines, for organic or inorganic parameters, were exceeded during 1986, 1987 or 1988.

RECOMMENDATIONS

Two recommendations can be made:

1) During 1988 one raw water sample contained THMs and in 1987 three raw water samples contained THMs. This sample site should be reassessed to ensure that it still meets the DWSP sampling protocol.

2) Hydrofluosilicic Acid dosages should be adjusted to ensure that the recommended fluoride level is maintained in the distributed water.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) SAMPLE DAY CONDITIONS F 1988

	SAMPLE DAY CONDITIONS		TREATMENT CHEMICAL DOSAGES (MG/L)						
			PRE-CHLORINATION	COAGULATION	ACTIVATION	COAGULATION AID	POST PH ADJUSTMEN	FLUORIDATION	POST-CHLORINATION
			CHLORINE	ALUN LIQUID	ALUN LIQUID	SODIUM SILICATE	CALCIUM OXIDE	HYDROFLUOSILICIC ACID	CHLORINE
DATE	RETENTION TIME(HRS)	FLOW (1000M3)							
JAN 27	1.8	250.0	1.20	34.00	3.00	1.50	13.00	.90	1.60
FEB 24	3.4	250.0	1.00	34.00	3.00	1.50	13.00	.90	1.00
MAR 30	1.7	254.4	1.00	32.00	1.00	1.50	14.00	.90	1.00
APR 26	5.5	240.4	1.00	30.00	3.00	1.50	8.60	.90	1.00
MAY 25	1.8	246.6	1.20	28.00	2.00	1.00	14.00	.90	1.20
JUN 29	1.7	255.0	2.40	28.00	2.00	1.00	12.00	1.00	1.60
JUL 27	1.6	246.1	2.40	26.00	1.00	.50	14.00	.90	1.60
AUG 24	1.7	247.0	3.00	26.00	1.00	.50	14.00	.90	1.60
SEP 28	1.4	211.4	2.60	24.00	2.00	1.00	8.60	.90	1.60
OCT 26	2.5	194.5	2.40	26.00	3.00	1.50	12.00	.90	1.60
NOV 30	2.0	250.0	1.40	28.00	3.00	1.50	11.00	1.00	1.60
DEC 20	2.2	225.9	1.00	26.00	3.00	1.75	12.00	.90	1.30

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (LEMIEUX ISLAND)

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	RAW			TREATED			SITE 1			SITE 2		
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
BACTERIOLOGICAL	FECAL COLIFORM MF	12	12	0	.	.	.	.	.	.	.	.	.
	STANDRD PLATE CNT MF	7	7	0	12	8	0	11	8	0	12	11	0
	P/A BOTTLE	.	.	.	8	0	0	7	0	0	8	0	0
	TOTAL COLIFORM MF	12	12	0	12	2	0	11	0	0	12	0	0
	T COLIFORM BCKGRD MF	12	12	0	12	1	0	11	1	0	12	2	0
*TOTAL SCAN BACTERIOLOGICAL		43	43	0	44	11	0	40	9	0	44	13	0
*TOTAL GROUP BACTERIOLOGICAL		43	43	0	44	11	0	40	9	0	44	13	0
CHEMISTRY (FLD)	FLD CHLORINE (COMB)	.	.	.	12	12	0	20	20	0	22	22	0
	FLD CHLORINE FREE	.	.	.	12	12	0	14	14	0	17	17	0
	FLD CHLORINE (TOTAL)	.	.	.	12	12	0	21	21	0	23	23	0
	FLD PH	12	12	0	12	12	0	22	22	0	24	24	0
	FLD TEMPERATURE	12	12	0	12	12	0	22	22	0	24	24	0
	FLD TURBIDITY	12	12	0	12	12	0	22	22	0	24	24	0
*TOTAL SCAN CHEMISTRY (FLD)		36	36	0	72	72	0	121	121	0	134	134	0
CHEMISTRY (LAB)	ALKALINITY	12	12	0	12	12	0	21	21	0	22	22	0
	CALCIUM	12	12	0	12	12	0	22	22	0	23	23	0
	CYANIDE	12	0	0	12	0	0	11	0	1	12	0	1
	CHLORIDE	12	12	0	12	12	0	21	21	0	23	23	0
	COLOUR	12	11	0	12	10	2	21	21	0	22	21	1

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (LEMIEUX ISLAND)

SUMMARY TABLE OF RESULTS (1988)

		SITE											
		RAW			TREATED			SITE 1			SITE 2		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
CHEMISTRY (LAB)	CONDUCTIVITY	12	12	0	12	12	0	21	21	0	22	22	0
	FLUORIDE	12	7	5	12	12	0	22	21	0	23	22	0
	HARDNESS	12	12	0	12	12	0	22	22	0	23	23	0
	IONCAL	12	6	0	12	6	0	22	12	0	24	11	0
	LANGELIERS INDEX	2	2	0	2	2	0	3	3	0	3	3	0
	MAGNESIUM	12	12	0	12	12	0	22	22	0	23	23	0
	SODIUM	12	12	0	12	12	0	22	22	0	23	23	0
	AMMONIUM TOTAL	12	11	0	12	9	3	21	20	1	22	17	5
	NITRITE	12	9	3	12	3	9	21	7	14	23	6	17
	TOTAL NITRATES	12	12	0	12	12	0	21	21	0	23	23	0
	NITROGEN TOT KJELD	12	12	0	12	12	0	21	21	0	21	20	1
	PH	12	12	0	12	12	0	21	21	0	22	22	0
	PHOSPHORUS FIL REACT	12	6	6	12	9	3	.	.	.	.	.	.
	PHOSPHORUS TOTAL	12	9	2	12	6	5	.	.	.	.	.	.
	SULPHATE	6	6	0	6	6	0	12	12	0	11	11	0
	TURBIDITY	12	12	0	12	12	0	21	21	0	21	21	0
*TOTAL SCAN CHEMISTRY (LAB)		236	199	16	236	195	22	368	331	16	386	336	25
METALS	SILVER	12	0	0	12	0	1	22	0	3	24	0	6
	ALUMINUM	12	12	0	12	12	0	22	22	0	24	24	0
	ARSENIC	12	3	9	12	0	12	22	0	22	24	0	24
	BARIUM	12	12	0	12	12	0	22	22	0	24	24	0
	BORON	12	0	12	12	0	12	22	0	22	24	0	24

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (LEMIEUX ISLAND)

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
METALS	BERYLLIUM	12	0	9	12	0	7	22	0	8	24	0	13
	CADMIUM	12	0	3	12	0	0	22	0	0	24	0	2
	COBALT	12	10	2	12	9	3	22	0	22	24	2	21
	CHROMIUM	12	2	10	12	2	10	22	3	17	24	1	20
	COPPER	12	12	0	12	10	2	22	22	0	24	24	0
	IRON	12	12	0	12	2	10	22	1	21	24	0	24
	MERCURY	12	5	6	12	5	6	11	3	4	12	2	2
	MANGANESE	12	12	0	12	12	0	22	22	0	24	24	0
	MOLYBDENUM	12	0	12	12	0	12	22	0	22	24	0	24
	NICKEL	12	0	12	12	0	12	22	0	18	24	0	22
	LEAD	12	11	1	12	3	8	22	22	0	24	16	8
	ANTIMONY	12	4	8	12	4	8	22	6	16	24	8	16
	SELENIUM	12	0	7	12	0	4	22	0	6	24	0	10
	STRONTIUM	12	12	0	12	12	0	22	22	0	24	24	0
	TITANIUM	12	12	0	12	12	0	22	22	0	24	24	0
	THALLIUM	12	0	6	12	0	3	22	0	5	24	0	6
	URANIUM	12	0	12	12	0	7	22	0	15	24	0	16
	VANADIUM	12	3	9	12	12	0	22	22	0	24	24	0
	ZINC	12	12	0	12	12	0	22	22	0	24	24	0
*TOTAL SCAN METALS		288	134	118	288	119	117	517	211	201	564	221	238
*TOTAL GROUP INORGANIC & PHYSICAL		560	369	134	596	386	139	1006	663	217	1084	691	263
CHLOROAROMATICS	HEXACHLOROBUTADIENE	11	0	0	10	0	0	11	0	0	12	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (LENIEUX ISLAND)

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
CHLOROAROMATICS	123 TRICHLOROBENZENE	11	0	0	10	0	0	11	0	0	12	0	0
	1234 T-CHLOROBENZENE	11	0	0	10	0	0	11	0	0	12	0	0
	1235 T-CHLOROBENZENE	11	0	0	10	0	0	11	0	0	12	0	0
	124 TRICHLOROBENZENE	11	0	0	10	0	0	11	0	0	12	0	0
	1245 T-CHLOROBENZENE	11	0	0	10	0	0	11	0	0	12	0	0
	135 TRICHLOROBENZENE	11	0	0	10	0	0	11	0	0	12	0	0
	HCB	11	0	0	10	0	0	11	0	0	12	0	0
	HEXACHLOROETHANE	11	0	0	10	0	2	11	0	0	12	0	0
	OCTACHLOROSTYRENE	11	0	0	10	0	0	11	0	1	12	0	2
	PENTACHLOROBENZENE	11	0	0	10	0	0	11	0	0	12	0	0
	236 TRICHLOROTOLUENE	11	0	0	10	0	0	11	0	0	12	0	0
	245 TRICHLOROTOLUENE	11	0	0	10	0	0	11	0	0	12	0	0
	26A TRICHLOROTOLUENE	11	0	0	10	0	0	11	0	0	12	0	0
*TOTAL SCAN CHLOROAROMATICS		154	0	0	140	0	2	154	0	1	168	0	2
CHLOROPHENOLS	234 TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	2345 T-CHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	2356 T-CHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	245-TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	246-TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	PENTACHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
*TOTAL SCAN CHLOROPHENOLS		12	0	0	12	0	0	0	0	0	0	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (LEMIEUX ISLAND)

SUMMARY TABLE OF RESULTS (1988)

		SITE											
		RAW			TREATED			SITE 1			SITE 2		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
PAH	PHENANTHRENE	12	0	0	12	0	0	.	.	.	.	.	.
	ANTHRACENE	12	0	0	12	0	0	.	.	.	.	.	.
	FLUORANTHENE	12	0	0	12	0	0	.	.	.	.	.	.
	PYRENE	12	0	0	12	0	0	.	.	.	.	.	.
	BENZO(A)ANTHRACENE	12	0	0	12	0	0	.	.	.	.	.	.
	CHRYSENE	12	0	0	12	0	0	.	.	.	.	.	.
	DIMETH. BENZ(A)ANTHR	12	0	0	12	0	0	.	.	.	.	.	.
	BENZO(E) PYRENE	12	0	0	12	0	0	.	.	.	.	.	.
	BENZO(J) FLUORANTHEN	0	0	0	0	0	0	.	.	.	.	.	.
	BENZO(B) FLUORANTHEN	12	0	0	12	0	0	.	.	.	.	.	.
	PERYLENE	12	0	0	12	0	0	.	.	.	.	.	.
	BENZO(K) FLUORANTHEN	12	0	0	12	0	0	.	.	.	.	.	.
	BENZO(A) PYRENE	12	0	0	12	0	0	.	.	.	.	.	.
	BENZO(G,H,I) PERYLEN	12	0	0	12	0	0	.	.	.	.	.	.
	DIBENZO(A,H) ANTHRAC	12	0	0	12	0	0	.	.	.	.	.	.
	INDENO(1,2,3-C,D) PY	12	0	0	12	0	0	.	.	.	.	.	.
	BENZO(B) CHRYSENE	12	0	0	12	0	0	.	.	.	.	.	.
	ANTHANTHRENE	0	0	0	0	0	0	.	.	.	.	.	.
	CORONENE	12	0	0	12	0	0	.	.	.	.	.	.
*TOTAL SCAN PAH		204	0	0	204	0	0	0	0	0	0	0	0
PESTICIDES & PCB	ALDRIN	11	0	0	10	0	0	11	0	0	12	0	0
	ALPHA BHC	11	0	4	10	0	3	11	0	5	12	0	5

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (LEMIEUX ISLAND)

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE	RAW			TREATED			SITE 1			SITE 2		
			TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
PESTICIDES & PCB	BETA BHC		11	0	0	10	0	0	11	0	0	12	0	0
	LINDANE		11	0	2	10	0	1	11	0	1	12	0	2
	ALPHA CHLORDANE		11	0	0	10	0	0	11	0	0	12	0	0
	GAMMA CHLORDANE		11	0	0	10	0	0	11	0	0	12	0	0
	DIELDRIN		11	0	0	10	0	0	11	0	0	12	0	0
	METHOXYCHLOR		11	0	0	10	0	0	11	0	0	12	0	0
	ENDOSULFAN 1		11	0	0	10	0	0	11	0	0	12	0	0
	ENDOSULFAN II		11	0	0	10	0	0	11	0	0	12	0	0
	ENDRIN		11	0	0	10	0	0	11	0	0	12	0	0
	ENDOSULFAN SULPHATE		11	0	0	10	0	0	11	0	0	12	0	0
	HEPTACHLOR EPOXIDE		11	0	0	10	0	0	11	0	0	12	0	0
	HEPTACHLOR		11	0	0	10	0	0	11	0	0	12	0	0
	MIREX		11	0	0	10	0	0	11	0	0	12	0	0
	OXYCHLORDANE		11	0	0	10	0	0	11	0	0	12	0	0
	OPDDT		11	0	0	10	0	0	11	0	0	12	0	0
	PCB		11	0	0	10	0	0	11	0	0	12	0	0
	DDD		11	0	0	10	0	0	11	0	0	12	0	0
	PPDDE		11	0	0	10	0	0	11	0	0	12	0	0
	PPDDT		11	0	0	10	0	0	11	0	0	12	0	0
	AMETRINE		12	0	0	12	0	0	11	0	0	12	0	0
	ATRAZINE		12	0	0	12	0	0	11	0	0	12	0	0
	ATRATONE		12	0	0	12	0	0	11	0	0	12	0	0
	CYANAZINE		12	0	0	12	0	0	11	0	0	12	0	0
	DES ETHYL ATRAZINE		6	0	0	6	0	0	6	0	0	6	0	0
	DES ETHYL SIMAZINE		6	0	0	6	0	0	6	0	0	6	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (LEMIEUX ISLAND)

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
PESTICIDES & PCB	PROMETONE	12	0	0	12	0	0	11	0	0	12	0	0
	PROPAZINE	12	0	0	12	0	0	11	0	0	12	0	0
	PROMETRYNE	12	0	0	12	0	0	11	0	0	12	0	0
	METRIBUZIN	12	0	0	12	0	0	11	0	0	12	0	0
	SIMAZINE	12	0	0	12	0	0	11	0	0	12	0	0
	ALACHLOR	12	0	0	12	0	0	11	0	0	12	0	0
	METOLACHLOR	12	0	0	12	0	0	11	0	0	12	0	0
*TOTAL SCAN PESTICIDES & PCB		375	0	6	354	0	4	364	0	6	396	0	7
PHENOLICS	PHENOLICS	12	8	4	12	8	4	.	.	.	.	.	.
*TOTAL SCAN PHENOLICS		12	8	4	12	8	4	0	0	0	0	0	0
SPECIFIC PESTICIDES	TOXAPHENE	0	0	0	0	0	0	1	0	0	1	0	0
	2,4,5-T	2	0	0	2	0	0	.	.	.	.	.	.
	2,4-D	2	0	0	2	0	0	.	.	.	.	.	.
	24DCHLRPHENOXYBUTYRC	2	0	0	2	0	0	.	.	.	.	.	.
	2,4 D PROPIONIC ACID	2	0	0	2	0	0	.	.	.	.	.	.
	DICAMBA	2	0	0	2	0	0	.	.	.	.	.	.
	PICHLORAM	0	0	0	0	0	0	.	.	.	.	.	.
	SILVEX	2	0	0	2	0	0	.	.	.	.	.	.
	DIAZINON	2	0	0	2	0	0	.	.	.	.	.	.

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (LEMIEUX ISLAND)

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
SPECIFIC PESTICIDES	DICHLOROVOS	2	0	0	2	0	0	.	.	.	.	.	.
	CHLORPYRIFOS	2	0	0	2	0	0	.	.	.	.	.	.
	ETHION	2	0	0	2	0	0	.	.	.	.	.	.
	AZINPHOS-METHYL	0	0	0	0	0	0	.	.	.	.	.	.
	MALATHION	2	0	0	2	0	0	.	.	.	.	.	.
	MEVINPHOS	2	0	0	2	0	0	.	.	.	.	.	.
	METHYL PARATHION	2	0	0	2	0	0	.	.	.	.	.	.
	METHYLTRITHION	2	0	0	2	0	0	.	.	.	.	.	.
	PARATHION	2	0	0	2	0	0	.	.	.	.	.	.
	PHORATE	2	0	0	2	0	0	.	.	.	.	.	.
	RELDAN	2	0	0	2	0	0	.	.	.	.	.	.
	RONNEL	2	0	0	2	0	0	.	.	.	.	.	.
	AMINOCARB	0	0	0	0	0	0	.	.	.	.	.	.
	BENOMYL	2	0	0	2	0	0	.	.	.	.	.	.
	BUX	2	0	0	2	0	0	.	.	.	.	.	.
	CARBOFURAN	2	0	0	2	0	0	.	.	.	.	.	.
	CICP	2	0	0	2	0	0	.	.	.	.	.	.
	DIALLATE	2	0	0	2	0	0	.	.	.	.	.	.
	EPTAM	2	0	0	2	0	0	.	.	.	.	.	.
	IPC	2	0	0	2	0	0	.	.	.	.	.	.
	PROPOXUR	2	0	0	2	0	0	.	.	.	.	.	.
	CARBARYL	2	0	0	2	0	0	.	.	.	.	.	.
	BUTYLATE	2	0	0	2	0	0	.	.	.	.	.	.
*TOTAL SCAN SPECIFIC PESTICIDES		56	0	0	56	0	0	1	0	0	1	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (LEMIEUX ISLAND)

SUMMARY TABLE OF RESULTS (1988)

		SITE											
		RAW			TREATED			SITE 1			SITE 2		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
VOLATILES	BENZENE	10	0	0	10	0	0	9	0	0	10	0	0
	TOLUENE	10	0	1	10	1	1	9	1	5	10	0	1
	ETHYLBENZENE	10	0	4	10	0	6	9	0	9	9	0	4
	P-XYLENE	10	0	0	10	0	0	9	0	0	10	0	0
	M-XYLENE	10	0	0	10	0	1	9	0	2	10	0	0
	O-XYLENE	10	0	1	10	0	1	9	0	3	10	0	0
	STYRENE	4	0	2	4	1	3	4	1	3	4	0	3
	1,1 DICHLOROETHYLENE	10	0	0	10	0	0	9	0	0	10	0	0
	METHYLENE CHLORIDE	10	0	0	10	0	0	9	0	0	10	0	0
	T1,2DICHLOROETHYLENE	10	0	0	10	0	0	9	0	0	10	0	0
	1,1 DICHLOROETHANE	10	0	0	10	0	0	9	0	0	10	0	0
	CHLOROFORM	9	0	6	9	9	0	9	9	0	9	9	0
	111, TRICHLOROETHANE	10	0	0	10	0	0	9	0	0	10	0	0
	1,2 DICHLOROETHANE	10	0	0	10	0	0	9	0	0	10	0	0
	CARBON TETRACHLORIDE	10	0	0	10	0	0	9	0	0	10	0	0
	1,2 DICHLOROPROPANE	10	0	0	10	0	0	9	0	0	10	0	0
	TRICHLOROETHYLENE	10	0	0	10	0	0	9	0	0	10	0	0
	DICHLOROBROMOMETHANE	10	0	1	9	9	0	9	9	0	9	9	0
	112 TRICHLOROETHANE	10	0	0	10	0	0	9	0	0	10	0	0
	CHLORODIBROMOMETHANE	10	0	1	10	0	0	9	0	0	10	0	1
	T-CHLOROETHYLENE	10	0	0	10	0	1	9	0	0	10	0	1
	BROMOFORM	10	0	0	10	0	0	9	0	0	10	0	0
	1122 T-CHLOROETHANE	10	0	0	10	0	0	9	0	0	10	0	0
	CHLOROBENZENE	10	0	0	10	0	0	9	0	0	10	0	0
	1,4 DICHLOROBENZENE	10	0	2	10	0	3	9	0	0	10	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA (LEMIEUX ISLAND)

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
VOLATILES	1,3 DICHLOROBENZENE	10	0	0	10	0	0	9	0	0	10	0	0
	1,2 DICHLOROBENZENE	10	0	0	10	0	0	9	0	0	10	0	0
	TRIFLUOROCHLOROTOLUE	3	0	0	3	0	0	2	0	0	3	0	0
	ETHLYENE DIBROMIDE	10	0	0	10	0	0	9	0	0	10	0	0
	TOTL TRIHALOMETHANES	9	0	1	9	9	0	9	9	0	9	9	0
*TOTAL SCAN VOLATILES		285	0	19	284	29	16	258	29	22	283	27	10
*TOTAL GROUP ORGANIC		1098	8	29	1062	37	26	777	29	29	848	27	19
TOTAL		1701	420	163	1702	434	165	1823	701	246	1976	731	282

KEY TO TABLE 5 and 6

A ONTARIO DRINKING WATER OBJECTIVES (ODWO)
1. Maximum Acceptable Concentration (MAC)
1+. MAC for Total Trihalomethanes
1*. MAC for Bacteriological Analyses
Poor water quality is indicated when :
- total coliform counts > 0 < 5
- P/A Bottle Test is present after 48 hours
- Aeromonas organisms are detected in more than 25% of samples in a single submission or in successive submissions from the same sampling site
- Pseudomonas Aeruginosa, Staphylococcus Aureus and members of the Fecal Streptococcus group should not be detected in any sample
- Standard Plate Count should not exceed 500 organisms per ml at 35 ^{0}C within 48 hours

2. Interim Maximum Acceptable Concentration (IMAC)
3. Maximum Desirable Concentration (MDC)
4. Aesthetic or Recommended Operational Guideline
- hardness levels between 80 and 100 mg/L as calcium carbonate are considered to provide an acceptable balance between corrosion and incrustation, water supplies with a hardness >200 mg/L are considered poor and those in excess of 500 mg/L are unacceptable.

B HEALTH & WELFARE CANADA (H&W)
1. Maximum Acceptable Concentration (MAC)
2. Proposed MAC
3. Interim MAC
4. Aesthetic Objective (AO) (for xylenes, the AO is a total)

C WORLD HEALTH ORGANIZATION (WHO)
1. Guideline Value (GV)
2. Tentative GV
3. Aesthetic GV

D US ENVIRONMENTAL PROTECTION AGENCY (EPA)
1. Maximum Contaminant Level (MCL)
2. Suggested No-Adverse Effect Level (SNAEL)
3. Lifetime Health Advisory
4. EPA Ambient Water Quality Criteria

F EUROPEAN ECONOMIC COMMUNITY (EEC)
1. Health Related Guideline Level
2. Aesthetic Guideline Level
3. Maximum Admissable Concentration (MADC)

G CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE

H USSR MAXIMUM PERMISSIBLE CONCENTRATION

I NEW YORK STATE AMBIENT WATER GUIDELINE

N/A NONE AVAILABLE

INTERPRETATION OF DATA

The interpretation of analytical results that are obtained from measurements near the limit of detection of the measurement process is subject to greater uncertainty than those at higher concentrations. The principle areas of concern relate to whether the substance has actually been detected, whether it has been properly identified, and whether it is an artifact of the measurement process. In other words, false positives can be caused by the instrumentation or the test procedures used, when in fact these compounds are not present in the sample.

There are several methods to treat data from such measurements:
1. Exclude the low-level data because of this uncertainty factor. However, studies of long-term environmental trends and modelling may be adversely affected by exclusion of such data.
2. Qualify these data so the user is aware of the greater uncertainty associated with their use.

For the Drinking Water Surveillance Program, measurements near the limit of detection of the measurement process are reported qualified by the code "<T". Results quantified by "W" indicate a zero measurement. These results are reported for purposes of modelling and long-term trend analysis and no significance should be attributed to a single determination of a substance below "T" (a single determination may well be a false positive). Repeat analysis or additional data are needed before it can be stated with certainty that the substance in question was truly present. On the other hand, it is less likely that repeated detection of a substance at or near the limit of detection at a specific location is solely due to an artifact in the measurement system, and more likely represents a true positive. However the average of such data is still only an estimate of the amount of substance present subject to the possible biases of the method used.

LABORATORY RESULTS, REMARK DESCRIPTIONS

.	No Sample Taken
BDL	Below Minimum Measurable Amount
<T	Greater Than Detection Limit But Not Confident (SEE INTERPRETATION OF RESULTS ABOVE)
>	Results Are Greater Than The Upper Limit
<=>	Approximate Result
!AW	No Data: Analysis Withdrawn
!CR	No Data: Could Not Confirm By Reanalysis
!CS	No Data: Contamination Suspected
!IL	No Data: Sample Incorrectly Labelled
!IS	No Data: Insufficient Sample
!LA	No Data: Laboratory Accident

!LD	No Data: Test Queued After Sample Discarded
!NA	No Data: No Authorization To Perform Reanalysis
!NP	No Data: No Procedure
!NR	No Data: Sample Not Received
!OP	No Data: Obscured Plate
!QU	No Data: Quality Control Unacceptable
!PE	No Data: Procedural Error - Sample Discarded
!PH	No Data: Sample pH Outside Valid Range
!RE	No Data: Received Empty
!RO	No Data: See Attached Report (no numeric results)
!SM	No Data: Sample Missing
!SS	No Data: Send Separate Sample Properly Preserved
!UI	No Data: Indeterminant Interference
!TX	No Data: Time Expired
A3C	Approximate, Total Count Exceeded 300 Colonies
APL	Additional Peak, Large, Not Priority Pollutant
APS	Additional Peak, Less Than, Not Priority Pollutant
CIC	Possible Contamination, Improper Cap
CRO	Calculated Result Only
PPS	Test Performed On Preserved Sample
RMP	P and M-Xylene Not Separated
RRV	Rerun Verification
RVU	Reported Value Unusual
SPS	Several Peaks, Small, Not Priority Pollutant
UAL	Unreliable: Sample Age Exceeds Normal Limit
UCR	Unreliable: Could Not Confirm By Reanalysis
UCS	Unreliable: Contamination Suspected
UIN	Unreliable: Indeterminant Interference
XP	Positive After X Number of Hours
T# (T06)	Result Taken After # Hours

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
BACTERIOLOGICAL						
FECAL COLIFORM MF (CT/100ML)		DET'N LIMIT = 0		GUIDELINE = 0 (A1)		
JAN	4	.	.	.	.	.
FEB	12	.	.	.	.	.
MAR	10	.	.	.	.	.
APR	4	.	.	.	.	.
MAY	35	.	.	.	.	.
JUN	83	.	.	.	.	.
JUL	112	.	.	.	.	.
AUG	94	.	.	.	.	.
SEP	148 T48	.	.	.	.	.
OCT	56 T48	.	.	.	.	.
NOV	64	.	.	.	.	.
DEC	24 T48	.	.	.	.	.
STANDRD PLATE CNT MF (CT/ML)		DET'N LIMIT = 0		GUIDELINE = 500/ML (A1)		
JAN	TOP	2	.	13	.	1
FEB	1200	1	.	0	.	7
MAR	2400 >	12	.	.	.	0
APR	800	5	.	0	.	25
MAY	260	2	.	4	.	460
JUN	2400 >	0	.	17	.	18
JUL	4200	16	.	101	.	55
AUG	2400 >	19	.	900	.	210
SEP	.	5 <=>	.	250 T24	.	330 T06
OCT	.	2 <=>	.	190 T24	.	430 T06
NOV	.	11	.	330 T48	.	2400 >
DEC	.	8 <=>	.	6 <=>	.	28 T06
P/A BOTTLE ( )		DET'N LIMIT = 0		GUIDELINE = 0 (A1*)		
JAN	.	0	.	0	.	0
FEB	.	0	.	0	.	0
MAR	.	0	.	.	.	0
APR	.	0	.	0	.	0
MAY	.	0	.	0	.	0
JUN	.	0	.	0	.	0
JUL	.	0	.	0	.	0
AUG	.	0	.	0	.	0
TOTAL COLIFORM MF (CT/100ML)		DET'N LIMIT = 0		GUIDELINE = 5/100ML(A1)		
JAN	69 A3C	0	.	0	.	0
FEB	188 A3C	0	.	0	.	0
MAR	1200	0	.	.	.	0

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

		WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	SITE			SITE 1		SITE 2	
	RAW	TREATED		STANDING	FREE FLOW	STANDING	FREE FLOW
	TYPE						
APR	34 A3C	0	.	0	.	0	
MAY	78 A3C	0	.	0	.	0	
JUN	230 A3C	0	.	0	.	0	
JUL	1000 A3C	0	.	0	.	0	
AUG	700 A3C	1	.	0	.	0	
SEP	236 A3C	1 T48	.	0 T24	.	0 T06	
OCT	380 A3C	0 T48	.	0 T24	.	0 T06	
NOV	168 A3C	0	.	0 T48	.	0 T24	
DEC	164 A3C	0 T48	.	0 T24	.	0 T06	
T COLIFORM BCKGRD MF (CT/100ML)		DET'N LIMIT = 0		GUIDELINE = N/A			
JAN	280	0	.	0	.	0	
FEB	720	0	.	0	.	0	
MAR	900	0	.	.	.	0	
APR	8700	0	.	0	.	0	
MAY	780	0	.	0	.	3	
JUN	4800 >	0	.	0	.	2	
JUL	36000	0	.	0	.	0	
AUG	40000 >	23	.	4	.	0	
SEP	4480 A3C	0 T48	.	0 T24	.	0 T06	
OCT	9200 A3C	0 T48	.	0 T24	.	0 T06	
NOV	3520 A3C	0	.	0 T48	.	0 T24	
DEC	1480 T48	0 T48	.	0 T24	.	0 T06	

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

		WATER TREATMENT PLANT			DISTRIBUTION SYSTEM	
SITE			SITE 1		SITE 2	
	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW
TYPE						
CHEMISTRY (FLD)						
FLD CHLORINE (COMB) ( )		DET'N LIMIT = N/A		GUIDELINE = N/A		
JAN	.	.200	.050	.050	.100	.200
FEB	.	.400	.150	.250	.100	.300
MAR	.	.500	.	.	.100	.200
APR	.	.300	.050	.150	.050	.100
MAY	.	.200	.050	.050	.050	.100
JUN	.	.500	.100	.300	.100	.100
JUL	.	.200	.050	.100	.050	.100
AUG	.	.200	.100	.050	.100	.050
SEP	.	.100	.100	.150	.050	.050
OCT	.	.100	.	.050	.	.050
NOV	.	.100	.	.200	.	.050
DEC	.	.050	.100	.100	.100	.050
FLD CHLORINE FREE ( )		DET'N LIMIT = N/A		GUIDELINE = N/A		
JAN	.	1.400	.050	.500	.050	.100
FEB	.	.700	.200	.350	.200	.200
MAR	.	.400	.	.	.050	.100
APR	.	.600	.	.250	.050	.150
MAY	.	.600	.	.050	.	.050
JUN	.	1.100	.100	.100	.100	.100
JUL	.	1.300	.	.350	.	.050
AUG	.	1.500	.	.400	.	.100
SEP	.	1.400	.	.050	.	.100
OCT	.	1.400	.	.350	.	.100
NOV	.	1.500	.	.200	.	.100
DEC	.	1.200	.	.450	.	.200
FLD CHLORINE (TOTAL) ( )		DET'N LIMIT = N/A		GUIDELINE = N/A		
JAN	.	1.600	.100	.550	.150	.300
FEB	.	1.100	.350	.600	.300	.500
MAR	.	.900	.	.	.150	.300
APR	.	.900	.050	.400	.100	.250
MAY	.	.900	.050	.100	.050	.150
JUN	.	1.600	.100	.400	.100	.100
JUL	.	1.500	.050	.450	.050	.150
AUG	.	1.700	.100	.450	.100	.150
SEP	.	1.500	.100	.200	.050	.150
OCT	.	1.500	.050	.400	.050	.150
NOV	.	1.600	.	.400	.	.150
DEC	.	1.300	.100	.550	.100	.250
FLD PH (DIMNSLESS)		DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)		

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

SITE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	7.100	7.300	7.900	7.900	7.700	7.900
FEB	7.100	8.300	7.900	8.400	8.000	8.400
MAR	6.900	8.300	.	.	7.600	7.500
APR	7.100	7.900	7.500	8.000	7.500	8.000
MAY	7.100	8.300	8.100	8.200	8.100	8.200
JUN	7.200	8.400	8.100	7.900	7.700	8.200
JUL	7.300	8.300	7.700	7.400	7.400	7.600
AUG	7.300	8.500	7.400	7.500	7.700	7.900
SEP	7.300	8.400	7.600	7.700	7.500	7.300
OCT	7.100	8.400	8.300	8.300	8.100	8.100
NOV	7.100	7.800	7.700	8.200	7.700	7.900
DEC	7.000	7.800	7.400	7.500	7.000	6.900
FLD TEMPERATURE (DEG.C)			DET'N LIMIT = N/A		GUIDELINE = 15 (A1)	
JAN	2.700	1.800	24.000	3.000	15.000	6.000
FEB	3.000	1.700	24.000	3.000	17.000	5.000
MAR	3.500	4.000	.	.	19.500	4.200
APR	7.500	7.000	22.000	7.000	15.000	6.000
MAY	16.000	15.000	23.000	14.000	21.000	11.000
JUN	20.500	20.500	23.000	19.500	20.000	16.000
JUL	25.500	25.000	27.000	24.000	24.000	18.500
AUG	24.000	24.000	25.000	23.000	22.000	20.000
SEP	18.000	18.000	23.000	18.000	20.500	18.500
OCT	10.500	10.000	24.000	12.000	20.000	14.000
NOV	6.000	7.000	23.000	8.000	16.000	17.000
DEC	2.500	3.000	22.000	5.000	16.000	8.000
FLD TURBIDITY (FTU)			DET'N LIMIT = N/A		GUIDELINE = 1.0 (A1)	
JAN	1.410	.360	.210	.740	.240	.150
FEB	2.000	.670	.250	.500	.320	.260
MAR	3.000	.980	.	.	.210	.200
APR	4.000	.460	.160	.300	.240	.200
MAY	2.700	.390	.290	.400	.280	.200
JUN	4.500	.240	.140	.340	.360	.400
JUL	1.400	.400	.160	.420	.240	.200
AUG	2.600	.450	.180	.320	.190	.250
SEP	1.800	.480	.420	.440	.280	.180
OCT	2.900	.480	.310	.330	.240	.180
NOV	3.500	.470	.220	.480	.340	.310
DEC	3.700	.610	.400	.430	.330	.270

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

SITE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (LAB)						
ALKALINITY (MG/L)			DET'N LIMIT = .200		GUIDELINE = 30-500 (A4)	
JAN	25.900	25.200	32.400	30.400	31.100	30.500
FEB	27.300	32.900	34.200	34.600	34.800	38.000
MAR	27.300	35.200	.	.	32.700	32.800
APR	21.300	23.200	24.900	25.200	26.600	26.500
MAY	23.300	26.300	28.100	IIS	IIS	30.600
JUN	20.400	28.100	25.100	23.700	26.600	26.600
JUL	20.600	20.100	23.700	22.600	25.000	24.600
AUG	21.000	24.300	24.700	24.600	25.300	25.300
SEP	21.300	26.100	23.600	23.800	23.600	23.300
OCT	20.100	23.100	23.800	23.200	IRE	23.400
NOV	21.700	22.200	25.700	25.000	24.900	24.700
DEC	21.200	23.800	24.600	24.100	25.900	24.500
CALCIUM (MG/L)			DET'N LIMIT = .100		GUIDELINE = 100 (F2)	
JAN	10.000	18.000	21.800	20.000	20.800	20.600
FEB	10.200	20.000	20.800	20.800	21.000	22.200
MAR	9.600	21.600	.	.	20.200	20.400
APR	8.200	14.800	16.000	15.800	15.800	16.000
MAY	8.800	17.000	16.800	17.400	17.600	17.800
JUN	8.400	19.400	18.400	17.800	18.400	18.400
JUL	8.200	16.200	16.800	15.800	17.400	17.200
AUG	8.400	18.200	18.600	18.800	18.800	18.000
SEP	8.720	18.000	17.400	17.600	17.600	17.200
OCT	9.000	18.600	19.000	18.800	IRE	18.600
NOV	7.200	16.600	17.400	17.600	18.000	17.000
DEC	9.000	16.000	16.900	16.400	16.400	16.500
CYANIDE (MG/L)			DET'N LIMIT = 0.001		GUIDELINE = .200 (A1)	
JAN	BDL	BDL	.	.002 <T	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	.	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	.002 <T
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
CHLORIDE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 250 (A3)	

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE TYPE	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	3.000	5.000	5.200	5.000	5.500	5.200
FEB	3.500	5.600	5.500	5.300	6.200	5.500
MAR	3.400	4.800	-	-	5.000	4.900
APR	2.200	3.900	3.900	3.800	3.900	3.900
MAY	2.400	4.300	4.000	!!S	4.300	4.200
JUN	2.400	5.600	6.600	5.700	5.700	5.700
JUL	2.800	6.000	6.000	6.400	6.200	6.200
AUG	2.600	6.200	6.600	6.300	6.500	6.400
SEP	1.700	4.900	5.100	5.100	5.700	5.000
OCT	2.300	5.600	6.100	5.700	!RE	6.000
NOV	2.200	4.600	5.200	4.900	4.600	4.300
DEC	1.600	3.600	4.000	3.600	3.700	4.000
COLOUR (KZU)			DET'N LIMIT = .5		GUIDELINE = 5.0 (A3)	
JAN	33.000	3.500	4.500	3.500	4.000	3.000
FEB	37.000	4.500	5.000	4.500	4.500	4.500
MAR	32.000	3.500	-	-	4.000	4.000
APR	BDL	.500 <T	4.000	4.000	4.500	4.000
MAY	32.000	4.500	5.000	!!S	!!S	4.500
JUN	26.500	3.000	3.000	2.500	3.000	3.000
JUL	24.500	2.000 <T	2.500	2.500	2.500	2.500
AUG	25.000	2.500	3.000	3.000	2.000 <T	2.500
SEP	30.000	4.000	4.000	5.000	4.000	3.500
OCT	35.500	4.000	5.000	4.500	!RE	4.500
NOV	39.500	3.500	4.000	3.500	4.000	3.500
DEC	33.500	3.500	4.500	3.500	4.000	3.500
CONDUCTIVITY (UMHO/CM)			DET'N LIMIT = 1		GUIDELINE = 400 (F2)	
JAN	90	137	157	151	154	145
FEB	93	156	162	157	162	160
MAR	91	152	-	-	151	150
APR	74	123	128	129	131	131
MAY	78	128	131	!!S	!!S	156
JUN	73	138	137	129	133	135
JUL	74	135	138	128	131	131
AUG	74	130	133	131	132	132
SEP	73	129	128	127	129	126
OCT	74	128	133	129	!RE	130
NOV	80	125	136	133	129	129
DEC	73	120	125	123	126	123
FLUORIDE (MG/L)			DET'N LIMIT = .01		GUIDELINE = 2.400 (A1)	
JAN	.040 <T	.780	.820	.800	.800	.840

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE	RAW	TREATED	SITE 1		SITE 2	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.060	.820	.880	.820	.860	.860
MAR	.040 <T	.860	.	.	.870	.880
APR	.050	.740	.750	.820	.770	.780
MAY	.040 <T	.920	.760	BDL	BDL	.940
JUN	.050	.870	.880	.950	.920	.900
JUL	.050	.910	.910	.950	.940	.950
AUG	.060	.920	.920	.920	.960	.960
SEP	.040 <T	.880	.880	.860	.860	.880
OCT	.040	.880	.880	.860	IRE	.900
NOV	.060	.840	.860	.880	.860	.860
DEC	.040 <T	.740	.840	.920	.840	.800
HARDNESS (MG/L)			DET'N LIMIT = .500		GUIDELINE = 80-100 (A4)	
JAN	33.000	54.000	63.000	59.000	61.000	61.000
FEB	36.000	60.000	62.000	63.000	62.000	66.000
MAR	35.000	64.000	.	.	62.000	63.000
APR	29.000	45.000	48.000	48.000	47.000	49.000
MAY	30.000	50.000	50.000	51.000	52.000	53.000
JUN	30.000	57.000	55.000	55.000	55.000	55.000
JUL	28.000	48.000	50.000	48.000	51.000	51.000
AUG	30.000	54.000	55.000	55.000	55.000	53.000
SEP	30.900	55.000	53.000	54.000	54.000	53.000
OCT	31.000	53.000	56.000	56.000	IRE	55.000
NOV	27.000	50.000	52.000	52.000	53.000	51.000
DEC	32.000	49.000	49.000	50.000	50.000	50.000
IONCAL (DIMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
FEB	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
MAR	.000 NAF	.000 NAF	.	.	.000 NAF	.000 NAF
APR	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
MAY	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
JUN	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
JUL	6.328	5.336	.514	1.010	2.564	1.741
AUG	2.993	6.918	6.526	8.207	6.535	3.944
SEP	2.668	6.773	7.642	9.469	7.090	8.542
OCT	5.567	5.697	6.980	9.865	.000 NAF	9.896
NOV	12.320	1.406	2.804	.322	2.960	.652
DEC	5.451	1.364	1.754	.325	4.736	2.852
LANGELIERS INDEX (DIMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	-1.590 NAF	-1.208 NAF	-.924 NAF	-1.057 NAF	-1.011 NAF	-.890 NAF
FEB	-1.480 NAF	-.585 NAF	-.713 NAF	-.416 NAF	-.441 NAF	-.208 NAF

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE			SITE 1		SITE 2	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW
MAR	-1.385 NAF	-.810 NAF	.	.	-.731 NAF	-.715 NAF
APR	1.503 NAF	1.152 NAF	1.060 NAF	1.051 NAF	1.018 NAF	1.004 NAF
MAY	1.366 NAF	.760 NAF	.717 NAF	.	.	.967 NAF
JUN	-1.581 NAF	-.278 NAF	-.590 NAF	-1.055 NAF	-.883 NAF	-.864 NAF
JUL	-1.548	-1.131	-1.090	-1.217	-1.053	-1.065
AUG	-1.449	-.905	-.960	-.956	-.965	-.944
SEP	-1.476	-.349	-1.017	-.928	-1.012	-1.046
OCT	-1.528	-.827	-.997	-1.001	.	-1.012
NOV	-1.595	-1.182	-1.013	-1.109	-1.049	-1.077
DEC	-1.585	-1.096	-1.110	-1.131	-.981	-1.061
MAGNESIUM (MG/L)			DET'N LIMIT = .050		GUIDELINE = 30 (F2)	
JAN	1.900	2.400	2.100	2.300	2.200	2.300
FEB	2.500	2.600	2.500	2.600	2.300	2.500
MAR	2.700	2.500	.	.	2.800	2.800
APR	2.000	2.000	2.000	2.000	1.900	2.100
MAY	2.100	1.900	2.100	1.900	2.000	2.100
JUN	2.200	2.200	2.200	2.500	2.200	2.200
JUL	1.800	1.900	1.900	2.000	2.000	1.900
AUG	2.200	2.100	2.100	2.100	2.100	2.100
SEP	2.210	2.500	2.500	2.600	2.500	2.500
OCT	2.100	1.700	2.000	2.200	IRE	2.200
NOV	2.100	2.000	2.000	1.900	1.900	1.900
DEC	2.200	2.200	2.200	2.200	2.300	2.200
SODIUM (MG/L)			DET'N LIMIT = .200		GUIDELINE = 200 (C3)	
JAN	2.600	2.800	3.000	3.000	3.000	3.000
FEB	3.200	3.800	4.000	3.600	4.400	3.800
MAR	3.200	3.800	.	.	4.000	3.800
APR	1.600	2.000	2.000	2.000	2.000	2.000
MAY	2.200	2.200	2.200	2.600	2.400	2.400
JUN	2.200	2.600	2.400	2.400	2.200	2.400
JUL	2.400	2.400	2.400	2.600	2.600	2.600
AUG	2.600	2.600	2.600	2.600	2.600	2.800
SEP	2.000	2.400	2.400	2.400	2.400	2.400
OCT	2.200	2.800	2.800	2.800	IRE	3.000
NOV	2.000	2.400	2.600	2.400	2.200	2.200
DEC	2.200	2.600	2.400	2.400	2.400	2.200
AMMONIUM TOTAL (MG/L)			DET'N LIMIT = 0.002		GUIDELINE = .05 (F2)	
JAN	.020	.008 <T	.194	.018	.012	.006 <T
FEB	.082	.056	.316	.080	.056	.064
MAR	.010	.062	.	.	.060	.048

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE						
	RAW	TREATED	SITE 1		SITE 2	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	.024	.008	.216	.074	.030	.032
MAY	.026	.018	.076	IIS	IIS	.022
JUN	.016	.014	.064	.024	.012	.006 <T
JUL	.022	.012	.174	.010	.014	.016
AUG	BDL	.002 <T	.106	.012	.002 <T	.002 <T
SEP	.022	.020	.124	.018	.018	.026
OCT	.012	.004 <T	.108	.006 <T	IRE	.018
NOV	.056	.010	.134	.022	.024	.008 <T
DEC	.022	.032	.098	.018	.024	.034
NITRITE (MG/L)		DET'N LIMIT = 0.001		GUIDELINE = 1.000 (A1)		
JAN	.032	.002 <T	.003 <T	.002 <T	.002 <T	.001 <T
FEB	.004 <T	.002 <T	.005	.003 <T	.004 <T	.003 <T
MAR	.092	.003 <T	.	.	.003 <T	.002 <T
APR	.038	.002	.003	.003	.003	.002
MAY	.017	.002 <T	.003 <T	IIS	.004 <T	.003 <T
JUN	.018	.002 <T	.002 <T	.002 <T	.002 <T	.002 <T
JUL	.004 <T	.003 <T	.004 <T	.004 <T	.003 <T	.003 <T
AUG	.002 <T	.001 <T	.001 <T	.003 <T	.003 <T	.005
SEP	.006	.002 <T	.002 <T	.002 <T	.002 <T	.002 <T
OCT	.006	.005	.007	.010	IRE	.009
NOV	.020	.002 <T	.002 <T	.002 <T	.001 <T	.002 <T
DEC	.026	.002	.003	.003	.004	.002
TOTAL NITRATES (MG/L)		DET'N LIMIT = .020		GUIDELINE = 10.000 (A1)		
JAN	.350	.310	.525	.330	.345	.310
FEB	.225	.235	.570	.255	.250	.235
MAR	.340	.265	.	.	.330	.265
APR	.230	.205	.430	.255	.215	.205
MAY	.190	.175	.250	IIS	.190	.225
JUN	.160	.140	.205	.170	.150	.140
JUL	.120	.100	.325	.110	.115	.105
AUG	.130	.115	.235	.145	.110	.100
SEP	.240	.240	.405	.255	.250	.240
OCT	.255	.255	.370	.270	IRE	.290
NOV	.230	.210	.385	.235	.250	.195
DEC	.150	.140	.210	.180	.160	.145
NITROGEN TOT KJELD (MG/L)		DET'N LIMIT = .020		GUIDELINE = N/A		
JAN	.340	.170	.390	.220	.180	.180
FEB	.370	.230	.520	.190	.220	.210
MAR	.370	.250	.	.	.250	.230
APR	.280	.130	.350	.200	.190	.200

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE			SITE 1		SITE 2	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	.340	.180	.240	IIS	IIS	IIS
JUN	.330	.150	.210	.170	.160	.160
JUL	.290	.170	.330	.120	.180	.160
AUG	.340	.160	.310	.200	.200	.170
SEP	.330	.170	.440	.220	.220	.200
OCT	.360	.180	.300	.190	IRE	.190
NOV	.330	.130	.290	.180	.190	.140
DEC	.310	.170	.260	.180	.080 <T	.180
PH (DIMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)	
JAN	7.350	7.510	7.610	7.540	7.560	7.690
FEB	7.430	7.930	7.820	8.110	8.080	8.250
MAR	7.550	7.690	.	.	7.830	7.840
APR	7.600	7.680	7.710	7.720	7.730	7.740
MAY	7.670	7.960	7.980	IIS	IIS	7.680
JUN	7.530	8.360	7.720	7.690	7.800	7.820
JUL	7.570	7.730	7.680	7.600	7.680	7.680
AUG	7.650	7.820	7.750	7.750	7.730	7.770
SEP	7.600	8.350	7.740	7.820	7.740	7.720
OCT	7.560	7.910	7.720	7.730	IRE	7.720
NOV	7.560	7.620	7.710	7.620	7.670	7.670
DEC	7.480	7.690	7.640	7.640	7.760	7.700
PHOSPHORUS FIL REACT (MG/L)			DET'N LIMIT = .0005		GUIDELINE = N/A	
JAN	.001 <T	.002	.	.	.	.
FEB	.001 <T	.007	.	.	.	.
MAR	.003	.005	.	.	.	.
APR	.002	.004	.	.	.	.
MAY	.002	.006	.	.	.	.
JUN	.004	.007	.	.	.	.
JUL	.001 <T	.001 <T	.	.	.	.
AUG	.001 <T	.004	.	.	.	.
SEP	.002 <T	.001 <T	.	.	.	.
OCT	.001 <T	.003	.	.	.	.
NOV	.002	.001 <T	.	.	.	.
DEC	.002	.001	.	.	.	.
PHOSPHORUS TOTAL (MG/L)			DET'N LIMIT = .002		GUIDELINE = .40 (F2)	
JAN	.007 <T	.008 <T	.	.	.	.
FEB	.010	.014	.	.	.	.
MAR	.003	.006 <T	.	.	.	.
APR	.014	.009 <T	.	.	.	.
MAY	.013	.012	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE			SITE 1		SITE 2	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW
JUN	.015	.013	.	.	.	.
JUL	BDL	BDL	.	.	.	.
AUG	.018	.014	.	.	.	.
SEP	.016	.013	.	.	.	.
OCT	.010	.010	.	.	.	.
NOV	.011	.007 <T	.	.	.	.
DEC	.008 <T	.008 <T	.	.	.	.
SULPHATE ( )		DET'N LIMIT = .200		GUIDELINE = 500. (A3)		
JUL	9.880	21.000	21.100	21.000	20.900	20.900
AUG	9.120	21.500	21.600	21.700	21.700	21.800
SEP	9.420	21.800	22.000	21.900	22.100	21.800
OCT	9.390	23.410	23.370	23.330	IRE	22.630
NOV	9.000	24.000	24.000	23.500	23.000	23.000
DEC	10.360	25.350	23.840	24.260	25.580	25.010
TURBIDITY (FTU)		DET'N LIMIT = .02		GUIDELINE = 1.00 (A1)		
JAN	1.170	.210	.200	.230	.210	.150
FEB	1.530	.160	.170	.270	.210	.140
MAR	2.300	.120	.	.	.300	.110
APR	4.000	.140	.330	.170	.180	.110
MAY	1.600	.240	.200	IIS	IIS	IIS
JUN	3.300	.170	.110	.180	.350	.130
JUL	1.900	.420	.390	.520	.430	.270
AUG	2.100	.230	.190	.440	.580	.590
SEP	1.490	.400	.590	.410	.420	.320
OCT	2.600	.480	.410	.380	IRE	.350
NOV	2.600	.490	.580	.790	.970	.840
DEC	3.100	.480	.460	.830	.300	.380

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE			SITE 1		SITE 2	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW
METALS						
SILVER (UG/L)		DET'N LIMIT = .020		GUIDELINE = 50. (A1)		
JAN	BDL	BDL	BDL	BDL	BDL	.050 <T
FEB	BDL	BDL	BDL	BDL	BDL	BDL
MAR	BDL	BDL	.	.	.020 <T	BDL
APR	BDL	BDL	BDL	BDL	BDL	.080 <T
MAY	BDL	BDL	BDL	BDL	BDL	BDL
JUN	BDL	BDL	BDL	BDL	BDL	BDL
JUL	BDL	BDL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL	BDL	BDL
SEP	BDL	BDL	BDL	BDL	.040 <T	BDL
OCT	BDL	.070 <T	.030 <T	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL	BDL	BDL
DEC	BDL	BDL	.060 <T	.040 <T	.040 <T	.030 <T
ALUMINUM (UG/L)		DET'N LIMIT = .050		GUIDELINE = 100.(A4)		
JAN	67.000	93.000	120.000	110.000	100.000	94.000
FEB	110.000	110.000	110.000	120.000	100.000	100.000
MAR	90.000	110.000	.	.	96.000	110.000
APR	180.000	110.000	110.000	110.000	96.000	83.000
MAY	90.000	55.000	79.000	79.000	110.000	64.000
JUN	150.000	81.000	85.000	72.000	87.000	79.000
JUL	76.000	55.000	68.000	34.000	66.000	56.000
AUG	75.000	69.000	68.000	77.000	69.000	66.000
SEP	59.000	85.000	86.000	96.000	88.000	87.000
OCT	110.000	110.000	110.000	100.000	93.000	91.000
NOV	120.000	120.000	110.000	130.000	130.000	110.000
DEC	120.000	160.000	120.000	120.000	110.000	100.000
ARSENIC (UG/L)		DET'N LIMIT = 0.050		GUIDELINE = 50.0 (A1)		
JAN	.670 <T	.410 <T	.600 <T	.530 <T	.500 <T	.440 <T
FEB	.940 <T	.500 <T	.540 <T	.420 <T	.430 <T	.550 <T
MAR	.820 <T	.500 <T	.	.	.460 <T	.480 <T
APR	.780 <T	.200 <T	.300 <T	.270 <T	.240 <T	.340 <T
MAY	.740 <T	.530 <T	.520 <T	.450 <T	.530 <T	.590 <T
JUN	.740 <T	.550 <T	.520 <T	.690 <T	.610 <T	.650 <T
JUL	.980 <T	.360 <T	.430 <T	.290 <T	.300 <T	.290 <T
AUG	1.200	.820 <T	.850 <T	.650 <T	.750 <T	.760 <T
SEP	1.300	.550 <T	.650 <T	.530 <T	.710 <T	.400 <T
OCT	1.000 <T	.480 <T	.510 <T	.410 <T	.520 <T	.490 <T
NOV	1.000 <T	.300 <T	.490 <T	.320 <T	.210 <T	.260 <T
DEC	1.300	.620 <T	.650 <T	.650 <T	.560 <T	.410 <T
BARIUM (UG/L)		DET'N LIMIT = 0.020		GUIDELINE = 1000. (A1)		

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE						
	RAW	TREATED	SITE 1		SITE 2	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	17.000	18.000	19.000	17.000	18.000	17.000
FEB	17.000	16.000	19.000	15.000	18.000	16.000
MAR	18.000	16.000	.	.	17.000	16.000
APR	17.000	17.000	18.000	15.000	17.000	15.000
MAY	18.000	17.000	17.000	17.000	19.000	16.000
JUN	19.000	16.000	18.000	18.000	17.000	17.000
JUL	18.000	16.000	18.000	22.000	18.000	17.000
AUG	16.000	15.000	16.000	15.000	15.000	15.000
SEP	16.000	14.000	16.000	15.000	16.000	16.000
OCT	16.000	15.000	17.000	15.000	15.000	15.000
NOV	17.000	16.000	16.000	14.000	16.000	15.000
DEC	17.000	16.000	17.000	15.000	17.000	16.000
BORON (UG/L)			DET'N LIMIT = 0.200		GUIDELINE = 5000. (A1)	
JAN	4.400 <T	4.700 <T	4.700 <T	4.500 <T	4.900 <T	5.200 <T
FEB	4.700 <T	4.800 <T	5.300 <T	5.000 <T	4.900 <T	4.800 <T
MAR	5.500 <T	5.300 <T	.	.	5.400 <T	5.500 <T
APR	3.700 <T	3.800 <T	4.100 <T	3.700 <T	3.700 <T	3.800 <T
MAY	3.500 <T	1.500 <T	1.300 <T	1.400 <T	2.800 <T	1.400 <T
JUN	6.500 <T	5.600 <T	5.600 <T	5.000 <T	4.900 <T	4.700 <T
JUL	6.100 <T	5.800 <T	5.900 <T	4.800 <T	5.400 <T	5.300 <T
AUG	10.000 <T	11.000 <T	4.900 <T	4.900 <T	6.000 <T	7.900 <T
SEP	9.000 <T	9.600 <T	10.000 <T	10.000 <T	13.000 <T	12.000 <T
OCT	16.000 <T	16.000 <T	6.100 <T	5.100 <T	4.800 <T	5.900 <T
NOV	14.000 <T	14.000 <T	13.000 <T	12.000 <T	6.100 <T	12.000 <T
DEC	8.200 <T	8.100 <T	6.700 <T	11.000 <T	6.500 <T	11.000 <T
BERYLLIUM (UG/L)			DET'N LIMIT = 0.010		GUIDELINE = .20 (H)	
JAN	.020 <T	BDL	BDL	BDL	BDL	.030 <T
FEB	.010 <T	.030 <T	.030 <T	BDL	BDL	.010 <T
MAR	.030 <T	.020 <T	.	.	.020 <T	.020 <T
APR	.020 <T	BDL	BDL	.030 <T	.040 <T	.020 <T
MAY	.050 <T	.040 <T	BDL	.050 <T	.020 <T	BDL
JUN	.040 <T	BDL	BDL	BDL	BDL	BDL
JUL	BDL	.040 <T	BDL	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL	BDL	BDL
SEP	BDL	BDL	BDL	BDL	BDL	BDL
OCT	.140 <T	.090 <T	.060 <T	.060 <T	.090 <T	.080 <T
NOV	.060 <T	.040 <T	BDL	.030 <T	.040 <T	.050 <T
DEC	.020 <T	.060 <T	.030 <T	.040 <T	.090 <T	.090 <T
CADMIUM (UG/L)			DET'N LIMIT = 0.050		GUIDELINE = 5.000 (A1)	
JAN	BDL	BDL	BDL	BDL	BDL	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE			SITE 1		SITE 2	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	BDL	BDL	BDL	BDL	BDL	.070 <T
MAR	.060 <T	BDL	.	.	BDL	BDL
APR	BDL	BDL	BDL	BDL	BDL	BDL
MAY	BDL	BDL	BDL	BDL	BDL	BDL
JUN	.100 <T	BDL	BDL	BDL	.060 <T	BDL
JUL	.070 <T	BDL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL	BDL	BDL
SEP	BDL	BDL	BDL	BDL	BDL	BDL
OCT	BDL	BDL	BDL	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL	BDL	BDL
COBALT (UG/L)		DET'N LIMIT = 0.020		GUIDELINE = 1000 (H)		
JAN	1.200	1.100	.060 <T	.090 <T	1.100	.080 <T
FEB	1.100	.070 <T	.060 <T	.080 <T	.090 <T	.080 <T
MAR	1.500	3.700	.	.	.110 <T	.100 <T
APR	5.200	27.000	.090 <T	.090 <T	.070 <T	.080 <T
MAY	5.900	4.700	.070 <T	.090 <T	.110 <T	.120 <T
JUN	.670 <T	.700 <T	.050 <T	.050 <T	.080 <T	.040 <T
JUL	.080 <T	.070 <T	.090 <T	.150 <T	.090 <T	BDL
AUG	15.000	11.000	.140 <T	.100 <T	.100 <T	.120 <T
SEP	8.800	14.000	.120 <T	.150 <T	2.000	.130 <T
OCT	4.000	5.400	.040 <T	.090 <T	.040 <T	.090 <T
NOV	2.100	2.000	.120 <T	.120 <T	.290 <T	.250 <T
DEC	17.000	5.600	.200 <T	.100 <T	.150 <T	.100 <T
CHROMIUM (UG/L)		DET'N LIMIT = 0.100		GUIDELINE = 50. (A1)		
JAN	.410 <T	.220 <T	.300 <T	.230 <T	.290 <T	.270 <T
FEB	.450 <T	.230 <T	.330 <T	.260 <T	.230 <T	.570 <T
MAR	.620 <T	.300 <T	.	.	.360 <T	.380 <T
APR	.660 <T	.670 <T	.320 <T	.240 <T	.340 <T	.270 <T
MAY	.750 <T	.190 <T	.140 <T	.200 <T	.330 <T	.270 <T
JUN	.440 <T	.220 <T	.120 <T	BDL	BDL	BDL
JUL	.700 <T	.260 <T	.450 <T	.420 <T	.360 <T	.290 <T
AUG	.680 <T	.700 <T	.180 <T	BDL	BDL	.420 <T
SEP	.980 <T	.960 <T	1.100	1.000 <T	1.100	1.000 <T
OCT	1.900	1.800	.320 <T	.220 <T	.440 <T	.320 <T
NOV	1.500	1.200	1.400	1.100	.390 <T	1.000 <T
DEC	.560 <T	.520 <T	.320 <T	.840 <T	.290 <T	.620 <T
COPPER (UG/L)		DET'N LIMIT = .100		GUIDELINE = 1000 (A3)		
JAN	7.400	1.200	31.000	1.800	18.000	1.600
FEB	8.400	.940 <T	27.000	2.000	15.000	14.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE	RAW	TREATED	SITE 1		SITE 2	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW
MAR	9.000	.840 <T	.	.	9.700	1.600
APR	11.000	1.200	28.000	2.200	9.600	1.900
MAY	12.000	1.200	16.000	2.500	16.000	1.900
JUN	14.000	2.700	15.000	2.300	8.800	1.900
JUL	22.000	2.600	22.000	4.000	8.800	2.400
AUG	30.000	2.300	22.000	2.700	7.200	2.300
SEP	20.000	2.200	29.000	2.900	11.000	3.000
OCT	12.000	1.600	14.000	2.300	2.800	2.900
NOV	12.000	1.200	27.000	2.300	15.000	1.900
DEC	10.000	1.300	24.000	2.300	22.000	2.600
IRON (UG/L)		DET'N LIMIT = 4.000		GUIDELINE = 300. (A3)		
JAN	150.000	18.000 <T	11.000 <T	33.000 <T	15.000 <T	8.900 <T
FEB	150.000	25.000 <T	17.000 <T	38.000 <T	17.000 <T	17.000 <T
MAR	160.000	16.000 <T	.	.	11.000 <T	12.000 <T
APR	270.000	51.000	29.000 <T	25.000 <T	19.000 <T	17.000 <T
MAY	160.000	24.000 <T	23.000 <T	37.000 <T	19.000 <T	18.000 <T
JUN	190.000	34.000 <T	15.000 <T	29.000 <T	18.000 <T	8.700 <T
JUL	110.000	20.000 <T	20.000 <T	47.000 <T	12.000 <T	8.200 <T
AUG	150.000	19.000 <T	21.000 <T	33.000 <T	11.000 <T	7.700 <T
SEP	140.000	25.000 <T	17.000 <T	29.000 <T	15.000 <T	12.000 <T
OCT	190.000	20.000 <T	25.000 <T	30.000 <T	15.000 <T	11.000 <T
NOV	200.000	18.000 <T	18.000 <T	26.000 <T	12.000 <T	12.000 <T
DEC	220.000	55.000	40.000 <T	76.000	26.000 <T	21.000 <T
MERCURY (UG/L)		DET'N LIMIT = 0.010		GUIDELINE = 1.000 (A1)		
JAN	.040	.030	.	BDL	.	.010
FEB	.080	.100	.	.010	.	.010
MAR	.070	.110	.	.	.	BDL
APR	.110	.120	.	.010	.	BDL
MAY	.020 <T	.030 <T	.	BDL	.	BDL
JUN	BDL	BDL	.	.020 <T	.	BDL
JUL	.050 <T	.050 <T	.	.020 <T	.	.020 <T
AUG	.050 <T	.050 <T	.	.020 <T	.	BDL
SEP	.040 <T	.030 <T	.	BDL	.	BDL
OCT	.050 <T	.050 <T	.	BDL	.	BDL
NOV	.190	.340	.	.240	.	.040 <T
DEC	.050 <T	.040 <T	.	.020 <T	.	BDL
MANGANESE (UG/L)		DET'N LIMIT = .050		GUIDELINE = 50.0 (A3)		
JAN	13.000	11.000	4.000	9.700	6.500	6.600
FEB	10.000	10.000	5.200	11.000	8.600	9.000
MAR	12.000	10.000	.	.	9.300	9.600

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE	RAW	TREATED	SITE 1		SITE 2	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	20.000	27.000	6.800	9.800	9.500	9.100
MAY	18.000	12.000	7.600	16.000	9.300	8.600
JUN	17.000	12.000	3.100	7.100	10.000	6.000
JUL	12.000	7.200	3.700	19.000	7.800	6.600
AUG	45.000	15.000	4.500	8.400	5.400	4.100
SEP	19.000	18.000	5.500	7.400	7.000	4.200
OCT	15.000	9.700	3.700	5.100	4.900	5.000
NOV	15.000	8.000	3.300	7.000	4.800	5.300
DEC	25.000	15.000	4.100	8.400	4.600	5.500
MOLYBDENUM (UG/L)			DET'N LIMIT = 0.020		GUIDELINE = 500 (H)	
JAN	.210 <T	.200 <T	.190 <T	.180 <T	.150 <T	.190 <T
FEB	.200 <T	.160 <T	.190 <T	.170 <T	.180 <T	.170 <T
MAR	.160 <T	.130 <T	.	.	.190 <T	.170 <T
APR	.140 <T	.170 <T	.150 <T	.130 <T	.170 <T	.160 <T
MAY	.250 <T	.180 <T	.170 <T	.190 <T	.200 <T	.190 <T
JUN	.160 <T	.160 <T	.150 <T	.170 <T	.150 <T	.160 <T
JUL	.220 <T	.240 <T	.220 <T	.140 <T	.150 <T	.120 <T
AUG	.210 <T	.150 <T	.200 <T	.200 <T	.110 <T	.200 <T
SEP	.240 <T	.150 <T	.190 <T	.200 <T	.130 <T	.160 <T
OCT	.220 <T	.200 <T	.190 <T	.200 <T	.170 <T	.200 <T
NOV	.230 <T	.140 <T	.170 <T	.190 <T	.200 <T	.200 <T
DEC	.240 <T	.180 <T	.220 <T	.240 <T	.240 <T	.280 <T
NICKEL (UG/L)			DET'N LIMIT = 0.100		GUIDELINE = 50. (F3)	
JAN	.590 <T	.540 <T	.250 <T	.300 <T	.450 <T	.340 <T
FEB	.680 <T	.270 <T	.190 <T	.380 <T	.380 <T	.580 <T
MAR	.600 <T	.240 <T	.	.	.160 <T	.340 <T
APR	.600 <T	.120 <T	BDL	.300 <T	BDL	.330 <T
MAY	.600 <T	.390 <T	.210 <T	.210 <T	.260 <T	.530 <T
JUN	.810 <T	.610 <T	BDL	.560 <T	.760 <T	.390 <T
JUL	.770 <T	.610 <T	.640 <T	.880 <T	.370 <T	.370 <T
AUG	.830 <T	.680 <T	.440 <T	.470 <T	.460 <T	.530 <T
SEP	1.300 <T	.800 <T	.780 <T	.650 <T	.840 <T	.730 <T
OCT	.910 <T	.620 <T	BDL	.220 <T	.490 <T	.440 <T
NOV	.420 <T	.320 <T	BDL	.310 <T	BDL	.150 <T
DEC	1.000 <T	.630 <T	.230 <T	.510 <T	.490 <T	.540 <T
LEAD (UG/L)			DET'N LIMIT = 0.050		GUIDELINE = 50. (A1)	
JAN	.200	.220	6.200	1.100	1.900	.090 <T
FEB	.190 <T	.020 <T	5.700	1.300	2.000	.550
MAR	.510	.060 <T	.	.	.670	.120 <T
APR	.480	.100 <T	8.500	2.000	1.200	.140 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

SITE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	.660	.150 <T	12.000	2.500	1.600	.230
JUN	.570	.400	6.400	2.900	1.800	.200 <T
JUL	2.900	.060 <T	27.000	4.300	2.400	.150 <T
AUG	.580	.390	20.000	4.600	1.100	.190 <T
SEP	.330	.110 <T	19.000	3.700	1.000	.230
OCT	.280	.050 <T	17.000	2.500	.230	.250
NOV	.500	BDL	15.000	1.700	1.600	.130 <T
DEC	.500	.150 <T	12.000	1.600	2.100	.160 <T
ANTIMONY (UG/L)			DET'N LIMIT = .050		GUIDELINE = 146. (D4)	
JAN	.050 <T	.060 <T	.040 <T	.090 <T	.040 <T	.080 <T
FEB	.100 <T	.110 <T	.120 <T	.110 <T	.090 <T	.110 <T
MAR	.090 <T	.080 <T	.	.	.080 <T	.130 <T
APR	.100 <T	.170 <T	.100 <T	.080 <T	.090 <T	.100 <T
MAY	.130 <T	.060 <T	.060 <T	.070 <T	.070 <T	.070 <T
JUN	.090 <T	.060 <T	.060 <T	.040 <T	.080 <T	.050 <T
JUL	.080 <T	.070 <T	.080 <T	.070 <T	.100 <T	.040 <T
AUG	26.000	20.000	.130 <T	.060 <T	.400	.390
SEP	17.000	28.000	.620	.670	4.400	.590
OCT	.140 <T	.110 <T	.110 <T	.100 <T	.100 <T	.100 <T
NOV	3.700	4.600	.450	.600	.750	.890
DEC	26.000	10.000	.580	.340	.390	.320
SELENIUM (UG/L)			DET'N LIMIT = 0.200		GUIDELINE = 10. (A1)	
JAN	.600 <T	.640 <T	BDL	.530 <T	.400 <T	.200 <T
FEB	BDL	BDL	BDL	BDL	BDL	BDL
MAR	.240 <T	BDL	.	.	.380 <T	BDL
APR	.640 <T	.380 <T	.580 <T	BDL	BDL	BDL
MAY	BDL	BDL	BDL	BDL	BDL	.590 <T
JUN	BDL	BDL	BDL	BDL	BDL	BDL
JUL	.300 <T	BDL	BDL	BDL	BDL	.850 <T
AUG	BDL	BDL	BDL	BDL	BDL	BDL
SEP	.240 <T	BDL	BDL	BDL	BDL	BDL
OCT	.400 <T	.750 <T	.690 <T	BDL	BDL	.900 <T
NOV	BDL	BDL	BDL	.580 <T	.580 <T	.740 <T
DEC	1.200 <T	1.200 <T	1.900 <T	1.300 <T	1.100 <T	1.200 <T
STRONTIUM (UG/L)			DET'N LIMIT = .050		GUIDELINE = 2000.(N)	
JAN	49.000	64.000	71.000	67.000	71.000	66.000
FEB	46.000	59.000	67.000	62.000	64.000	64.000
MAR	52.000	58.000	.	.	55.000	54.000
APR	43.000	58.000	60.000	56.000	59.000	58.000
MAY	45.000	60.000	56.000	58.000	64.000	65.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WBS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE TYPE	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JUN	43.000	60.000	55.000	57.000	55.000	55.000
JUL	40.000	51.000	53.000	54.000	51.000	58.000
AUG	39.000	49.000	52.000	50.000	52.000	51.000
SEP	41.000	57.000	58.000	57.000	55.000	54.000
OCT	36.000	51.000	51.000	48.000	52.000	52.000
NOV	42.000	52.000	56.000	53.000	52.000	52.000
DEC	40.000	53.000	57.000	55.000	56.000	54.000
TITANIUM (UG/L)			DET'N LIMIT = .050		GUIDELINE = N/A	
JAN	7.800	7.500	7.400	8.100	7.500	7.000
FEB	9.100	6.200	5.800	6.100	5.900	6.000
MAR	12.000	11.000	.	.	9.300	9.100
APR	16.000	13.000	5.800	6.000	5.600	6.200
MAY	7.700	5.000	3.700	4.600	4.700	4.100
JUN	11.000	4.900	3.900	3.800	4.200	3.900
JUL	7.900	6.900	6.300	7.200	6.300	2.100
AUG	8.400	6.000	4.600	5.500	5.100	5.000
SEP	6.900	6.800	5.400	6.500	6.300	5.700
OCT	8.500	5.700	4.100	4.200	4.100	4.000
NOV	13.000	9.000	7.800	8.200	7.900	8.100
DEC	11.000	8.300	6.900	6.600	6.600	6.000
THALLIUM (UG/L)			DET'N LIMIT = .010		GUIDELINE = 13. (D4)	
JAN	.010 <T	BDL	BDL	BDL	BDL	.010 <T
FEB	.020 <T	.020 <T	.030 <T	.040 <T	.020 <T	.030 <T
MAR	.010 <T	.010 <T	.	.	.010 <T	BDL
APR	.020 <T	BDL	BDL	BDL	BDL	BDL
MAY	.030 <T	BDL	BDL	.020 <T	.030 <T	.020 <T
JUN	BDL	BDL	BDL	.020 <T	BDL	BDL
JUL	BDL	BDL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL	BDL	BDL
SEP	BDL	BDL	BDL	BDL	BDL	BDL
OCT	BDL	BDL	BDL	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL	BDL	BDL
DEC	.030 <T	.050 <T	.020 <T	BDL	BDL	BDL
URANIUM (UG/L)			DET'N LIMIT = .020		GUIDELINE = 20. (A2)	
JAN	.070 <T	BDL	.030 <T	.020 <T	.020 <T	.030 <T
FEB	.040 <T	BDL	.020 <T	BDL	BDL	BDL
MAR	.080 <T	.040 <T	.	.	.050 <T	.040 <T
APR	.070 <T	.030 <T	.030 <T	.030 <T	.040 <T	.050 <T
MAY	.090 <T	.030 <T	.030 <T	.030 <T	.040 <T	.040 <T
JUN	.110 <T	BDL	BDL	BDL	BDL	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE			SITE 1		SITE 2	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW
JUL	.050 <T	BDL	BDL	BDL	BDL	.060 <T
AUG	.040 <T	BDL	BDL	BDL	BDL	BDL
SEP	.080 <T	.050 <T	.050 <T	.050 <T	.090 <T	.060 <T
OCT	.070 <T	.060 <T	.040 <T	.040 <T	.050 <T	.030 <T
NOV	.080 <T	.030 <T	.060 <T	.040 <T	.040 <T	.040 <T
DEC	.110 <T	.060 <T	.040 <T	.030 <T	.030 <T	BDL
VANADIUM (UG/L)			DET'N LIMIT = .050		GUIDELINE = 100 (H)	
JAN	.320 <T	.520	.870	.540	.570	.560
FEB	.350 <T	.510	.640	.520	.610	.550
MAR	.410	.660	.	.	.560	.600
APR	.590	.560	.700	.620	.710	.650
MAY	.360 <T	.900	.880	1.000	1.200	.990
JUN	.530	1.100	.870	.710	1.100	.990
JUL	.440 <T	.880	.770	.590	.940	1.000
AUG	.500 <T	1.100	.780	.980	.900	.960
SEP	.400 <T	1.100	.950	.920	.880	.950
OCT	.470 <T	.910	.940	.770	.890	.870
NOV	.480 <T	.820	.840	.910	.930	.900
DEC	.480 <T	.860	.840	.780	.940	.870
ZINC (UG/L)			DET'N LIMIT = .001		GUIDELINE = 5000. (A3)	
JAN	2.700	3.200	5.600	2.900	8.000	2.900
FEB	3.100	2.600	4.500	3.300	9.400	13.000
MAR	5.100	2.900	.	.	18.000	3.800
APR	4.400	4.200	5.100	3.100	8.100	2.600
MAY	3.700	2.500	3.700	3.000	6.400	2.400
JUN	3.600	4.500	2.500	1.800	3.800	1.700
JUL	3.800	2.900	5.800	5.900	3.600	1.800
AUG	2.600	1.500	3.400	1.600	2.400	1.200
SEP	2.300	1.800	4.100	2.300	2.900	2.100
OCT	2.400	3.000	4.000	1.500	1.700	1.700
NOV	3.100	2.200	4.600	2.300	7.700	2.000
DEC	3.500	4.500	4.500	3.200	15.000	2.800

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE						
	RAW	TREATED	SITE 1		SITE 2	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW
CHLOROAROMATICS						
HEXACHLOROETHANE (NG/L)		DET'N LIMIT = 1.000		GUIDELINE = 1900 (D4)		
JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	.	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	6.000 <T	.	BDL	.	6.000 <T
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	!LA	.	BDL	.	BDL
SEP	BDL	6.000 <T	.	10.000 <T	.	6.000 <T
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	!QU	!QU	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE			SITE 1		SITE 2	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW
PESTICIDES & PCB						
ALPHA BHC (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 700 (G)	
JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL
MAR	2.000 <T	2.000 <T	.	.	.	2.000 <T
APR	1.000 <T	BDL	.	3.000 <T	.	BDL
MAY	1.000 <T	4.000 <T	.	BDL	.	BDL
JUN	BDL	BDL	.	2.000 <T	.	1.000 <T
JUL	BDL	BDL	.	3.000 <T	.	BDL
AUG	BDL	!LA	.	BDL	.	1.000 <T
SEP	1.000 <T	1.000 <T	.	1.000 <T	.	1.000 <T
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	!QU	!QU	.	2.000 <T	.	2.000 <T
LINDANE (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 4000 (A1)	
JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL
MAR	1.000 <T	1.000 <T	.	.	.	1.000 <T
APR	BDL	BDL	.	BDL	.	1.000 <T
MAY	BDL	BDL	.	BDL	.	BDL
JUN	1.000 <T	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	!LA	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	!QU	!QU	.	1.000 <T	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE			SITE 1		SITE 2	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW
PHENOLICS (UG/L)	PHENOLICS		DET'N LIMIT = 0.2		GUIDELINE = 2.00 (A3)	
JAN	.600 <T	.600 <T	.	.	.	.
FEB	.600 <T	.600 <T	.	.	.	.
MAR	.600 <T	.600 <T	.	.	.	.
APR	.400 <T	.200 <T	.	.	.	.
MAY	4.600	3.000	.	.	.	.
JUN	3.000	2.200	.	.	.	.
JUL	2.000	1.600	.	.	.	.
AUG	1.400	1.200	.	.	.	.
SEP	3.800	3.200	.	.	.	.
OCT	3.400	2.000	.	.	.	.
NOV	1.600	1.000	.	.	.	.
DEC	2.000	1.600	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE	RAW	TREATED	SITE 1		SITE 2	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW
VOLATILES						
TOLUENE (UG/L)			DET'N LIMIT = .050		GUIDELINE = 24.0 (84)	
MAR	BDL	BDL	.	.	.	BDL
APR	BDL	BDL	.	.050 <T	.	BDL
MAY	BDL	.050 UCS	.	.050 UCS	.	BDL
JUN	BDL	BDL	.	.050 <T	.	BDL
JUL	BDL	BDL	.	.100 <T	.	.050 <T
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	.050 <T	.	.150 <T	.	BDL
DEC	.050 <T	BDL	.	.050 <T	.	BDL
ETHYLBENZENE (UG/L)			DET'N LIMIT = .050		GUIDELINE = 2.4 (84)	
MAR	BDL	BDL	.	.	.	!TX
APR	BDL	BDL	.	.050 <T	.	BDL
MAY	BDL	.100 <T	.	.050 <T	.	BDL
JUN	.050 <T	.050 <T	.	.150 <T	.	BDL
JUL	BDL	.050 <T	.	.050 <T	.	.100 <T
AUG	.100 <T	BDL	.	.100 <T	.	.050 <T
SEP	BDL	.050 <T	.	.100 <T	.	BDL
OCT	BDL	BDL	.	.050 <T	.	.050 <T
NOV	.100 <T	.100 <T	.	.100 <T	.	BDL
DEC	.100 <T	.150 <T	.	.100 <T	.	.050 <T
M-XYLENE (UG/L)			DET'N LIMIT = .100		GUIDELINE = 300 (84)	
MAR	BDL	BDL	.	.	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	.100 <T	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	.400 <T	.	.200 <T	.	BDL
O-XYLENE (UG/L)			DET'N LIMIT = .050		GUIDELINE = 300 (84)	
MAR	BDL	BDL	.	.	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	.050 <T	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	.050 <T	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
SITE	RAW	TREATED	SITE 1		SITE 2	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	.050 <T	BDL	.	BDL	.	BDL
DEC	BDL	.150 <T	.	.050 <T	.	BDL
STYRENE (UG/L)		DET'N LIMIT = .050		GUIDELINE = 46.5 (D2)		
SEP	BDL	.350 <T	.	.600	.	.250 <T
OCT	BDL	.150 <T	.	.350 <T	.	.350 <T
NOV	.300 <T	.650 UCS	.	.450 <T	.	BDL
DEC	.050 <T	.200 <T	.	.250 <T	.	.200 <T
CHLOROFORM (UG/L)		DET'N LIMIT = .100		GUIDELINE = 350 (A1+)		
MAR	ITX	ITX	.	.	.	ITX
APR	.200 <T	40.200	.	41.400	.	39.700
MAY	BDL	60.200	.	68.400	.	59.300
JUN	BDL	180.000	.	123.900	.	152.100
JUL	.300 <T	162.000	.	126.000	.	171.000
AUG	.300 <T	169.000	.	136.000	.	199.000
SEP	BDL	187.000	.	136.000	.	171.000
OCT	.400 <T	161.000	.	121.000	.	151.000
NOV	.200 <T	86.200	.	76.100	.	82.000
DEC	.200 <T	85.800	.	67.100	.	82.600
DICHLOROBROMOMETHANE (UG/L)		DET'N LIMIT = .050		GUIDELINE = 350 (A1+)		
MAR	BDL	ITX	.	.	.	ITX
APR	BDL	.800	.	.600	.	.700
MAY	BDL	1.200	.	.900	.	.850
JUN	BDL	2.300	.	2.300	.	2.550
JUL	BDL	3.400	.	3.350	.	3.750
AUG	BDL	3.700	.	2.800	.	3.200
SEP	BDL	2.350	.	2.100	.	2.500
OCT	.300 <T	2.100	.	1.800	.	1.950
NOV	BDL	1.600	.	1.200	.	1.300
DEC	BDL	1.650	.	1.450	.	1.650
CHLORODIBROMOMETHANE (UG/L)		DET'N LIMIT = .100		GUIDELINE = 350 (A1+)		
MAR	BDL	BDL	.	.	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM OTTAWA WSS (LEMIEUX ISLAND) 1988

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	.300 <T	BDL	.	BDL	.	.200 <T
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
T-CHLOROETHYLENE (UG/L)		DET'N LIMIT = .050		GUIDELINE = 10.0 (C2)		
MAR	BDL	BDL	.	.	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	.050 <T
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	.050 <T	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
1,4 DICHLOROBENZENE (UG/L)		DET'N LIMIT = .100		GUIDELINE = 5.0 (B1)		
MAR	BDL	BDL	.	.	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	.200 <T	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
SEP	.500 <T	.400 <T	.	BDL	.	BDL
OCT	.100 <T	.200 <T	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
TOTL TRIHALOMETHANES (UG/L)		DET'N LIMIT = .500		GUIDELINE = 350 (A1)		
MAR	ITX	ITX	.	.	.	ITX
APR	BDL	41.000	.	42.000	.	40.400
MAY	BDL	61.400	.	69.300	.	60.150
JUN	BDL	182.300	.	126.200	.	154.650
JUL	BDL	165.400	.	129.350	.	174.750
AUG	BDL	172.700	.	138.800	.	202.200
SEP	BDL	189.350	.	138.100	.	173.500
OCT	1.000 <T	163.100	.	122.800	.	153.150
NOV	BDL	87.800	.	77.300	.	83.300
DEC	BDL	87.450	.	68.550	.	84.250

Table 6

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
BACTERIOLOGICAL			
STANDARD PLATE COUNT MEMBRANE FILTRATION	CT/ML	0	500/ML(A1)
P/A BOTTLE		0	0 (A1*)
TOTAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	5/100mL(A1)
TOTAL COLIFORM BACKGROUND MF	CT/100ML	0	N/A
CHLOROAROMATICS			
HEXACHLOROBUTADIENE	NG/L	1.000	450. (D4)
1,2,3-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,3,4-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,3,5-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,4-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,4,5-TETRACHLOROBENZENE	NG/L	1.000	38000 (D4)
1,3,5-TRICHLOROBENZENE	NG/L	5.000	10000 (D4)
HEXACHLOROBENZENE	NG/L	1.0	10. (C1)
HEXACHLOROETHANE	NG/L	1.000	1900. (D4)
OCTACHLOROSTYRENE	NG/L	1.000	N/A
PENTACHLOROBENZENE	NG/L	1.000	74000 (D4)
2,3,6-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,4,5-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,6,A-TRICHLOROTOLUENE	NG/L	5.000	N/A
CHLOROPHENOLS			
2,3,4-TRICHLOROPHENOL	NG/L	50.	N/A
2,3,4,5-TETRACHLOROPHENOL	NG/L	50.	N/A
2,3,5,6-TETRACHLOROPHENOL	NG/L	50.	N/A
2,4,5-TRICHLOROPHENOL	NG/L	50.	2600000 (D4)
2,4,6-TRICHLOROPHENOL	NG/L	50.	5000. (B1)
PENTACHLOROPHENOL	NG/L	50.	60000. (B1)
CHEMISTRY (FLD)			
FIELD COMBINED CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD FREE CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD TOTAL CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD PH	DMSNLESS	N/A	6.5-8.5(A4)
FIELD TEMPERATURE	°C	N/A	<15 °C(A1)
FIELD TURBIDITY	FTU	N/A	1.0 (A1)
CHEMISTRY (LAB)			
ALKALINITY	MG/L	.200	30-500(A4)
CALCIUM	MG/L	.100	100. (F2)
CYANIDE	MG/L	.001	.20(A1)
CHLORIDE	MG/L	.200	250. (A3)
COLOUR	TCU	.5	5.0 (A3)
CONDUCTIVITY	UMHO/CM	1.	400. (F2)
FLUORIDE	MG/L	.01	2.4 (A1)
HARDNESS	MG/L	.50	80-100(A4)
MAGNESIUM	MG/L	.05	30. (F2)
SODIUM	MG/L	.20	200. (C3)
AMMONIUM TOTAL	MG/L	.002	.05(F2)
NITRITE	MG/L	.001	1.0 (A1)
TOTAL NITRATES	MG/L	.02	10. (A1)
NITROGEN TOTAL KJELDAHL	MG/L	.02	N/A
PH	DMSNLESS	N/A	6.5-8.5(A4)
PHOSPHORUS FIL REACT	MG/L	.0005	N/A
PHOSPHORUS TOTAL	MG/L	.002	.40(F2)
TOTAL SOLIDS	MG/L	1.	500. (A3)
TURBIDITY	FTU	.02	1.0 (A1)
METALS			
ALUMINUM	UG/L	.050	100. (A4)

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE	
BERYLLIUM	UG/L	.010	0.20	(H)
CADMIUM	UG/L	.050	5.0	(A1)
COBALT	UG/L	.020	1000.	(H)
CHROMIUM	UG/L	.100	50.	(A1)
COPPER	UG/L	.100	1000.	(A3)
IRON	UG/L	4.0	300.	(A3)
MERCURY	UG/L	.01	1.0	(A1)
MANGANESE	UG/L	.050	50.	(A3)
MOLYBDENUM	UG/L	.020	500.	(H)
NICKEL	UG/L	.100	50.	(F3)
LEAD	UG/L	.050	50.	(A1)
SELENIUM	UG/L	.200	10.	(A1)
SILVER	UG/L	.020	50.	(A1)
STRONTIUM	UG/L	.050	2000.	(H)
THALLIUM	UG/L	.010	13.	(D4)
TITANIUM	UG/L	.050	N/A	
URANIUM	UG/L	.020	20.	(A2)
VANADIUM	UG/L	.050	100.	(H)
ZINC	UG/L	.020	500.	(A3)
PHENOLICS				
PHENOLICS (UNFILTERED REACTIVE)	UG/L	.2	2.0	(A3)
PESTICIDES & PCB				
ALDRIN	NG/L	1.0	700.	(A1)
AMETRINE	NG/L	50.	300000.	(D3)
ATRAZINE	NG/L	50.	60000.	(B3)
ALPHA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	700.	(G)
BETA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	300.	(G)
GAMMA HEXACHLOROCYCLOHEXANE(LINDANE)	NG/L	1.0	4000.	(A1)
ALPHA CHLORDANE	NG/L	2.0	7000.	(A1)
GAMMA CHLORDANE	NG/L	2.0	7000.	(A1)
BLADEX	NG/L	100.	10000.	(B3)
DIELDRIN	NG/L	2.0	700.	(A1)
METHOXYCHLOR	NG/L	5.0	100000.	(A1)
ENDOSULFAN 1 (THIODAN I)	NG/L	2.0	74000.	(D4)
ENDOSULFAN 2 (THIODAN II)	NG/L	4.0	74000.	(D4)
ENDRIN	NG/L	4.0	200.	(A1)
ENDOSULFAN SULPHATE(THIODAN SULPHATE)	NG/L	4.0	N/A	
HEPTACHLOR EPOXIDE	NG/L	1.0	3000.	(A1)
HEPTACHLOR	NG/L	1.0	3000.	(A1)
METOLACHLOR	NG/L	500.	50000.	(B3)
MIREX	NG/L	5.0	N/A	
OXYCHLORDANE	NG/L	2.0	N/A	
O,P-DDT	NG/L	5.0	30000.	(A1)
PCB	NG/L	20.0	3000.	(A2)
O,P-DDD	NG/L	5.0	N/A	
PPDDE	NG/L	1.0	30000.	(A1)
PPDDT	NG/L	5.0	30000.	(A1)
ATRATONE	NG/L	50.	N/A	
ALACHLOR	NG/L	500.	35000.	(D2)
PROMETONE	NG/L	50.	52500.	(D3)
PROPAZINE	NG/L	50.	16000.	(D2)
PROMETRYNE	NG/L	50.	1000.	(B3)
SENCOR (METRIBUZIN)	NG/L	100.	80000.	(B2)
SIMAZINE	NG/L	50.	10000.	(B3)
POLYAROMATIC HYDROCARBONS				
PHENANTHRENE	NG/L	10.0	N/A	
ANTHRACENE	NG/L	1.0	N/A	
FLUORANTHENE	NG/L	20.0	42000.	(D4)
PYRENE	NG/L	20.0	N/A	
BENZO(A)ANTHRACENE	NG/L	20.0	N/A	
CHRYSENE	NG/L	50.0	N/A	
DIMETHYL BENZO(A)ANTHRACENE	NG/L	5.0	N/A	
BENZO(E)PYRENE	NG/L	50.0	N/A	
BENZO(B)FLUORANTHENE	NG/L	10.0	N/A	
PERYLENE	NG/L	10.0	N/A	
BENZO(K)FLUORANTHENE	NG/L	1.0	N/A	
BENZO(A)PYRENE	NG/L	5.0	10.	(B1)
BENZO(G,H,I)PERYLENE	NG/L	20.0	N/A	

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
DIBENZO(A,H)ANTHRACENE	NG/L	10.0	N/A
INDENO(1,2,3-C,D)PYRENE	NG/L	20.0	N/A
BENZO(B)CHRYSENE	NG/L	2.0	N/A
CORONENE	NG/L	10.0	N/A
SPECIFIC PESTICIDES			
TOXAPHENE	NG/L	N/A	5000. (A1)
2,4,5-TRICHLOROBUTYRIC ACID (2,4,5-T)	NG/L	50.	280000. (B1)
2,4-DICHLOROBUTYRIC ACID (2,4-D)	NG/L	100.	100000. (A1)
2,4-DICHLORORPHENOXYBUTYRIC ACID	NG/L	200.	18000. (B3)
2,4-D PROPIONIC ACID	NG/L	100.	N/A
DICAMBA	NG/L	100.	87000. (B3)
PICHLORAM	NG/L	100.	2450000. (D3)
SILVEX (2,4,5-TP)	NG/L	50.	10000. (A1)
DIAZINON	NG/L	20.	14000. (A1)
DICHLOROVOS	NG/L	20.	N/A
DURSBAN	NG/L	20.	N/A
ETHION	NG/L	20.	35000. (G)
GUTHION	NG/L	N/A	N/A
MALATHION	NG/L	20.	160000. (G)
MEVINPHOS	NG/L	20.	N/A
METHYL PARATHION	NG/L	50.	7000. (B3)
METHYLTRITHION	NG/L	20.	N/A
PARATHION	NG/L	20.	35000. (B1)
PHORATE (THIMET)	NG/L	20.	35. (D2)
RELDAN	NG/L	20.	N/A
RONNEL	NG/L	20.	N/A
AMINOCARB	NG/L	N/A	N/A
BENONYL	NG/L	N/A	N/A
BUX (METALKAMATE)	NG/L	2000.	N/A
CARBOFURAN	NG/L	2000.	18000. (D3)
CICP (CHLORPROPHAM)	NG/L	2000.	350000. (G)
DIALLATE	NG/L	2000.	30000. (H)
EPTAM	NG/L	2000.	N/A
IPC	NG/L	2000.	N/A
PROPOXUR (BAYGON)	NG/L	2000.	90000. (G)
SEVIN (CARBARYL)	NG/L	200.	70000. (A1)
SUTAN (BUTYLATE)	NG/L	2000.	245000. (D3)
VOLATILES			
BENZENE	UG/L	.050	5.0 (B1)
TOLUENE	UG/L	.050	24.0 (B4)
ETHYLBENZENE	UG/L	.050	2.4 (B4)
PARA-XYLENE	UG/L	.100	300. (B4)
META-XYLENE	UG/L	.100	300. (B4)
ORTHO-XYLENE	UG/L	.050	300. (B4)
1,1-DICHLOROETHYLENE	UG/L	.100	7.0 (D1)
ETHLYENE DIBROMIDE	UG/L	.05	50. (G)
METHYLENE CHLORIDE	UG/L	.500	1750. (D3)
TRANS-1,2-DICHLOROETHYLENE	UG/L	.100	350. (D3)
1,1-DICHLOROETHANE	UG/L	.100	N/A
CHLOROFORM	UG/L	.100	350. (A1+)
1,1,1-TRICHLOROETHANE	UG/L	.020	200. (D1)
1,2-DICHLOROETHANE	UG/L	.050	5.0 (D1)
CARBON TETRACHLORIDE	UG/L	.200	5.0 (D1)
1,2-DICHLOROPROPANE	UG/L	.050	10.0 (G)
TRICHLOROETHYLENE	UG/L	.100	5.0 (D1)
DICHLOROBROMOMETHANE	UG/L	.050	350. (A1+)
1,1,2-TRICHLOROETHANE	UG/L	.050	.60(D4)
CHLORODIBROMOMETHANE	UG/L	.100	350. (A1+)
TETRACHLOROETHYLENE	UG/L	.050	10.0 (C2)
BROMOFORM	UG/L	.200	350. (A1+)
1,1,2,2-TETRACHLOROETHANE	UG/L	.050	0.17(D4)
CHLOROBENZENE	UG/L	.100	1510. (D3)
1,4-DICHLOROBENZENE	UG/L	.100	5.0 (B1)
1,3-DICHLOROBENZENE	UG/L	.100	130. (G)
1,2-DICHLOROBENZENE	UG/L	.050	200. (B1)
TRIFLUOROCHLOROTOLUENE	UG/L	.100	N/A
TOTAL TRIHALOMETHANES	UG/L	.500	350. (A1)
STYRENE	UG/L	.05	46.5 (D2)